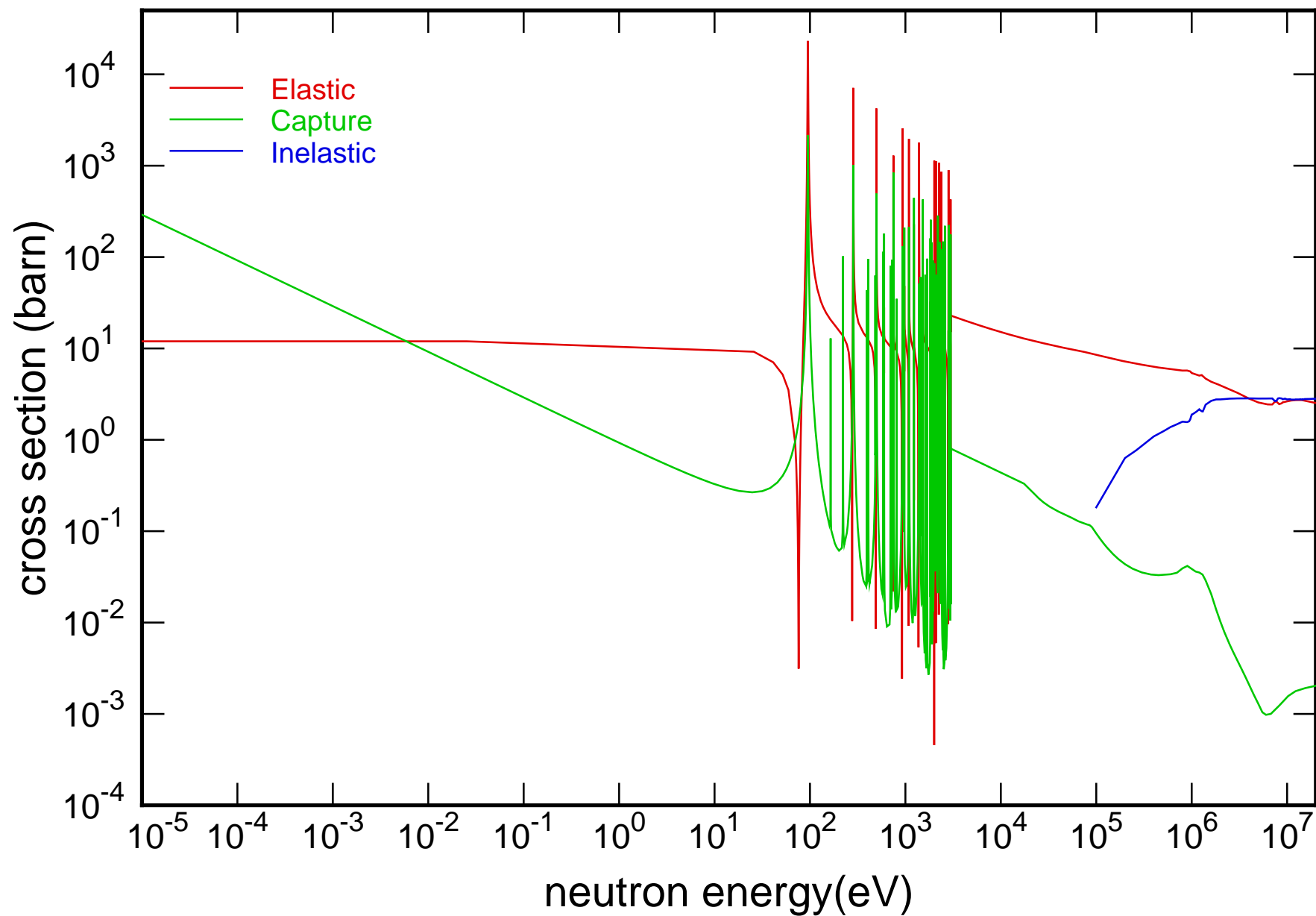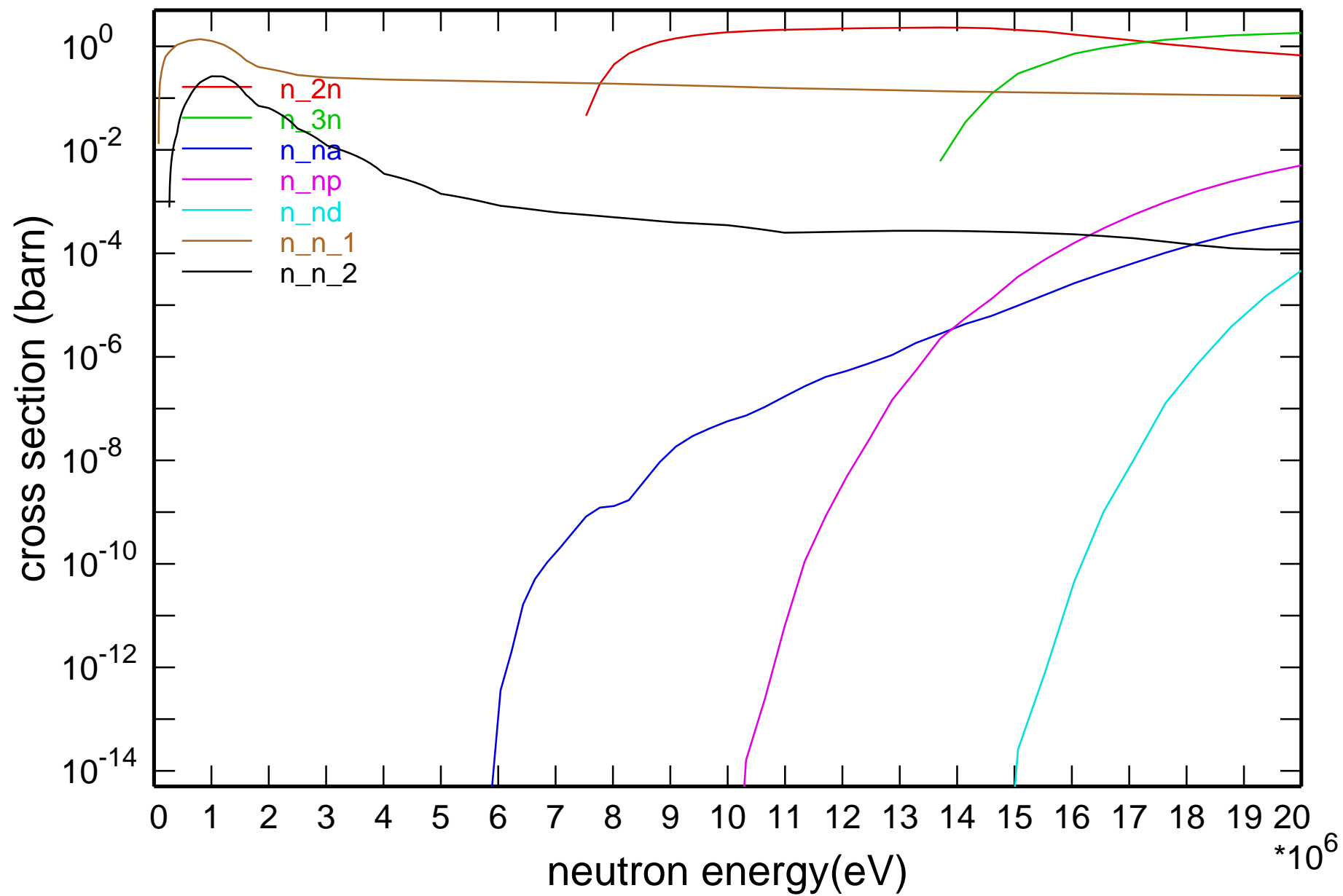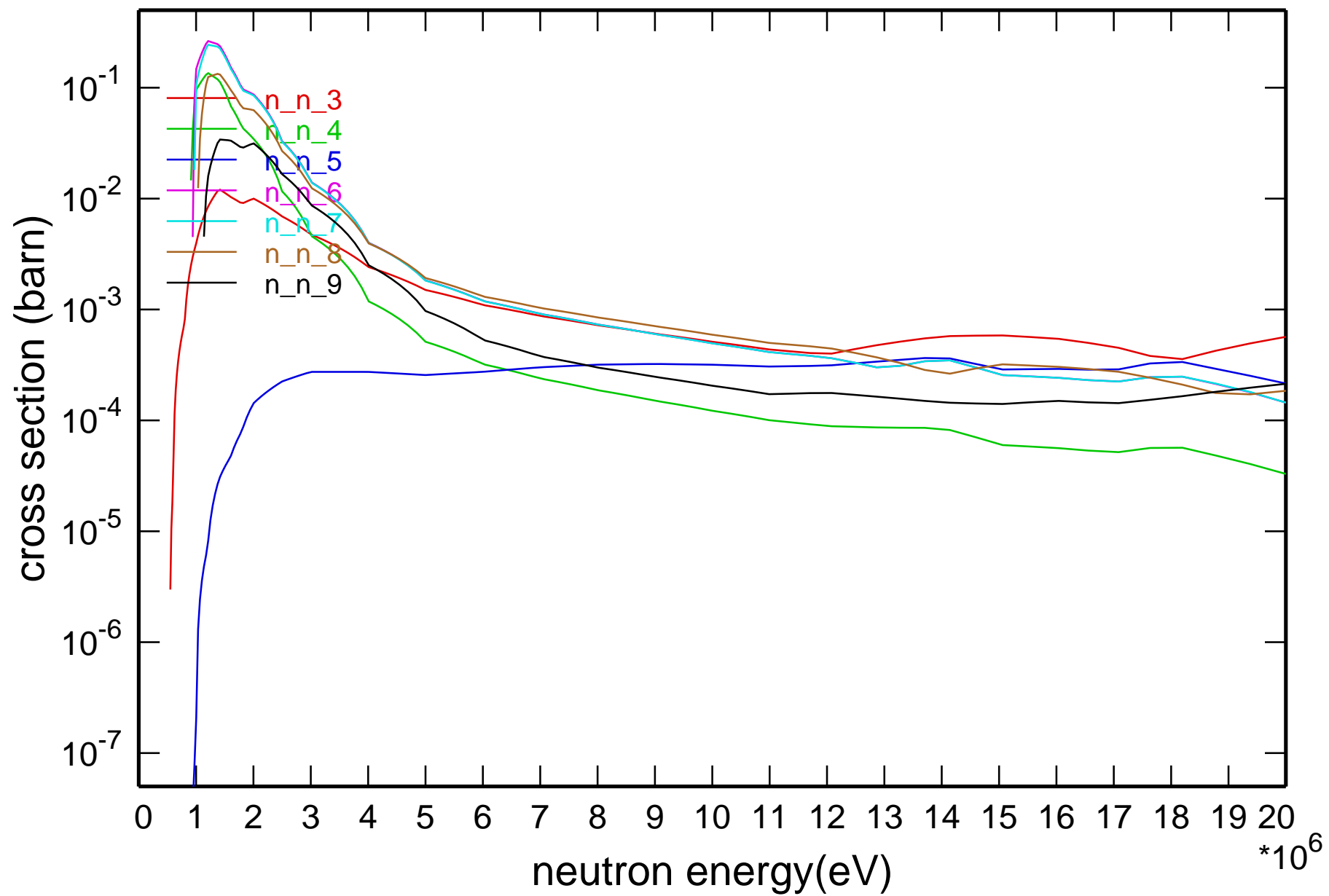Main Cross Sections
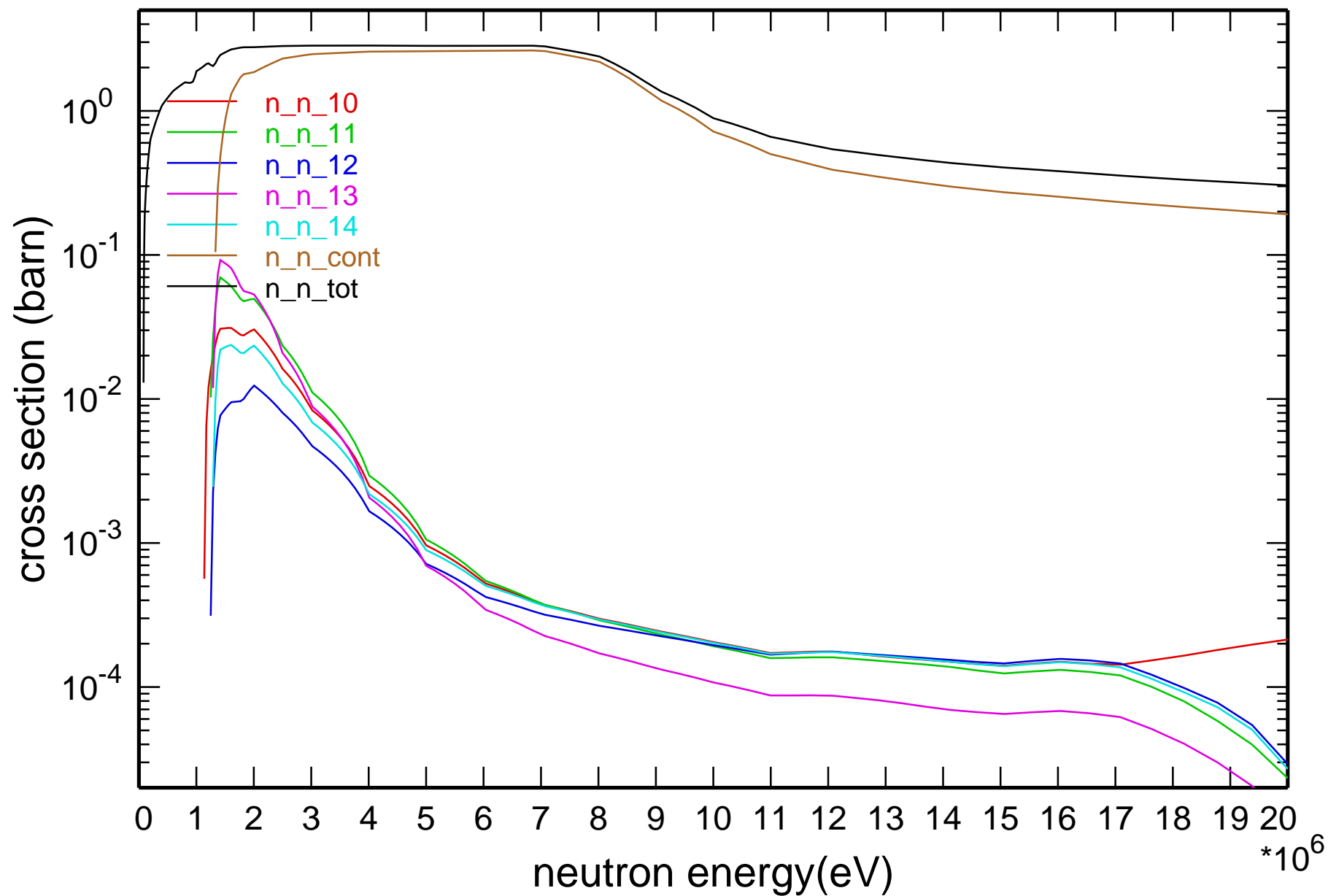
Cross Section
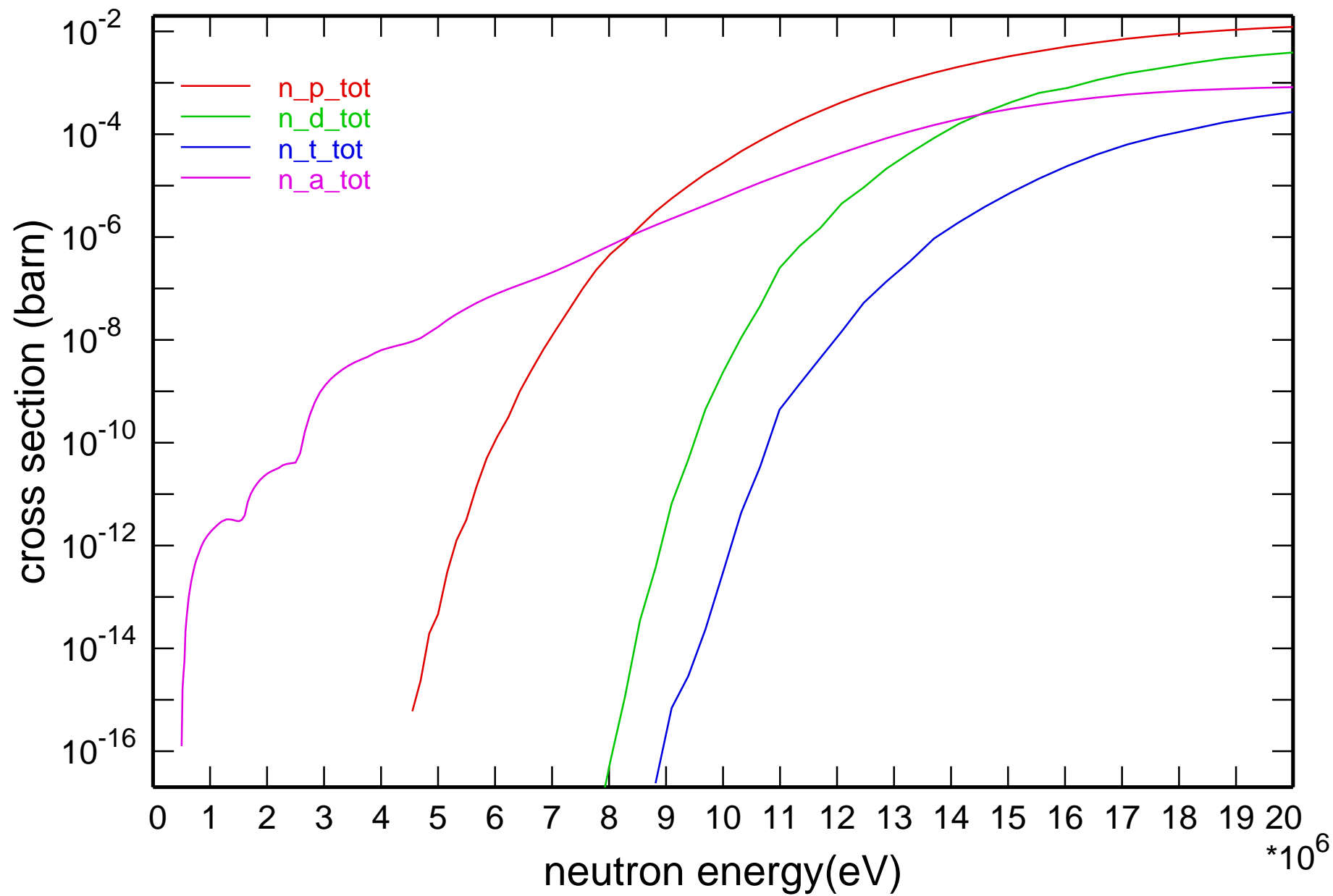
Cross Section

Cross Section

Cross Section

Angular distribution (CMS)
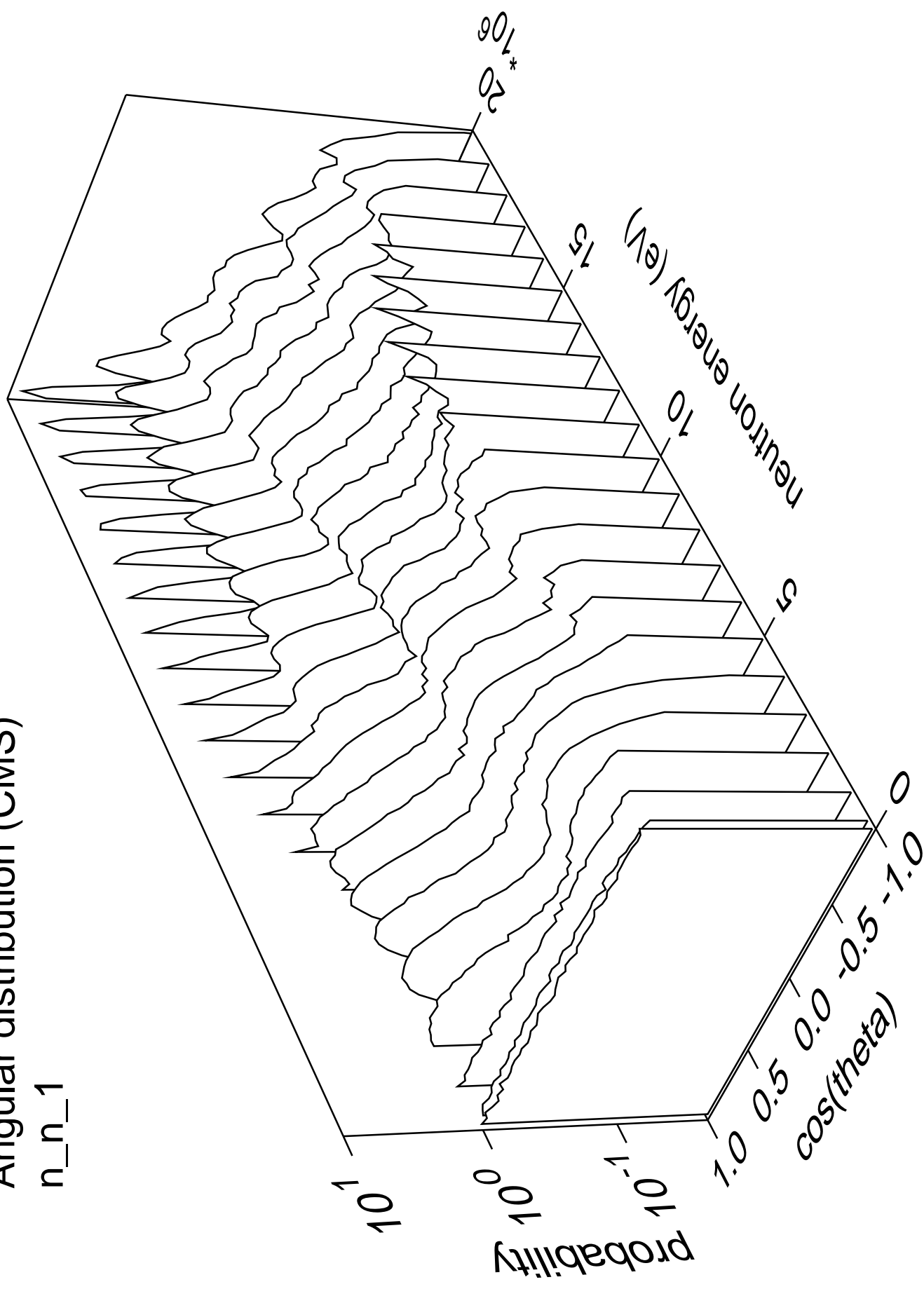Elastic

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_1

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_2

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_3

probability

neutron energy (eV)

cos(theta)

Angular distribution (CMS)
n_n_4

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_5

cos(theta)

neutron energy (eV)

probability

Angular distribution (CMS)
n_n_6

probability

neutron energy (eV)

cos(theta)

Angular distribution (CMS)
n_n_7

probability

cos(theta)

neutron energy (eV)

$*10^6$

20

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10^0

Angular distribution (CMS)
n_n_8

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_9

probability

10⁰

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

0

5

10

15

20
*10⁶

neutron energy (eV)

Angular distribution (CMS)
n_n_10

probability

10^0

cos(theta)

1.0 0.5 0.0 -0.5 -1.0

0

5

10

15

20 $*10^6$

neutron energy (eV)

Angular distribution (CMS)
n_n_11

probability

10^0

1.0 0.5 0.0 -0.5 -1.0
cos(theta)

0   5   10   15   20 *10^6

neutron energy (eV)

Angular distribution (CMS)
n_n_12

neutron energy (eV)

cos(theta)

probability

Angular distribution (CMS)
n_n_13

probability

cos(theta)

neutron energy (eV)

Angular distribution (CMS)
n_n_14

probability

10⁰

20 *10⁶

15

neutron energy (eV)

10

5

0

1.0 0.5 0.0 -0.5 -1.0

cos(theta)

Angular distribution (CMS) n_n_14

Angular distribution (LABS)
n_n_cont
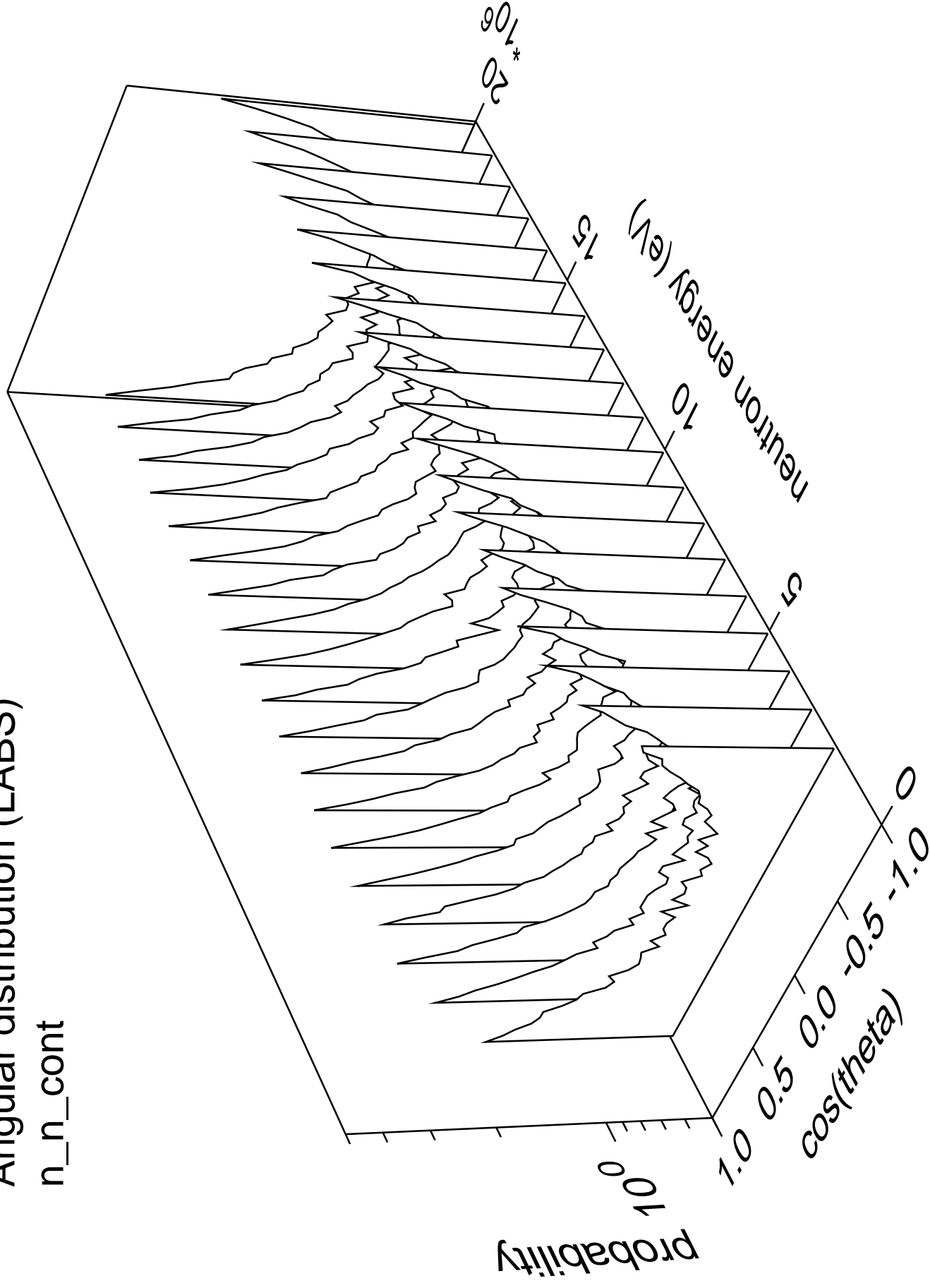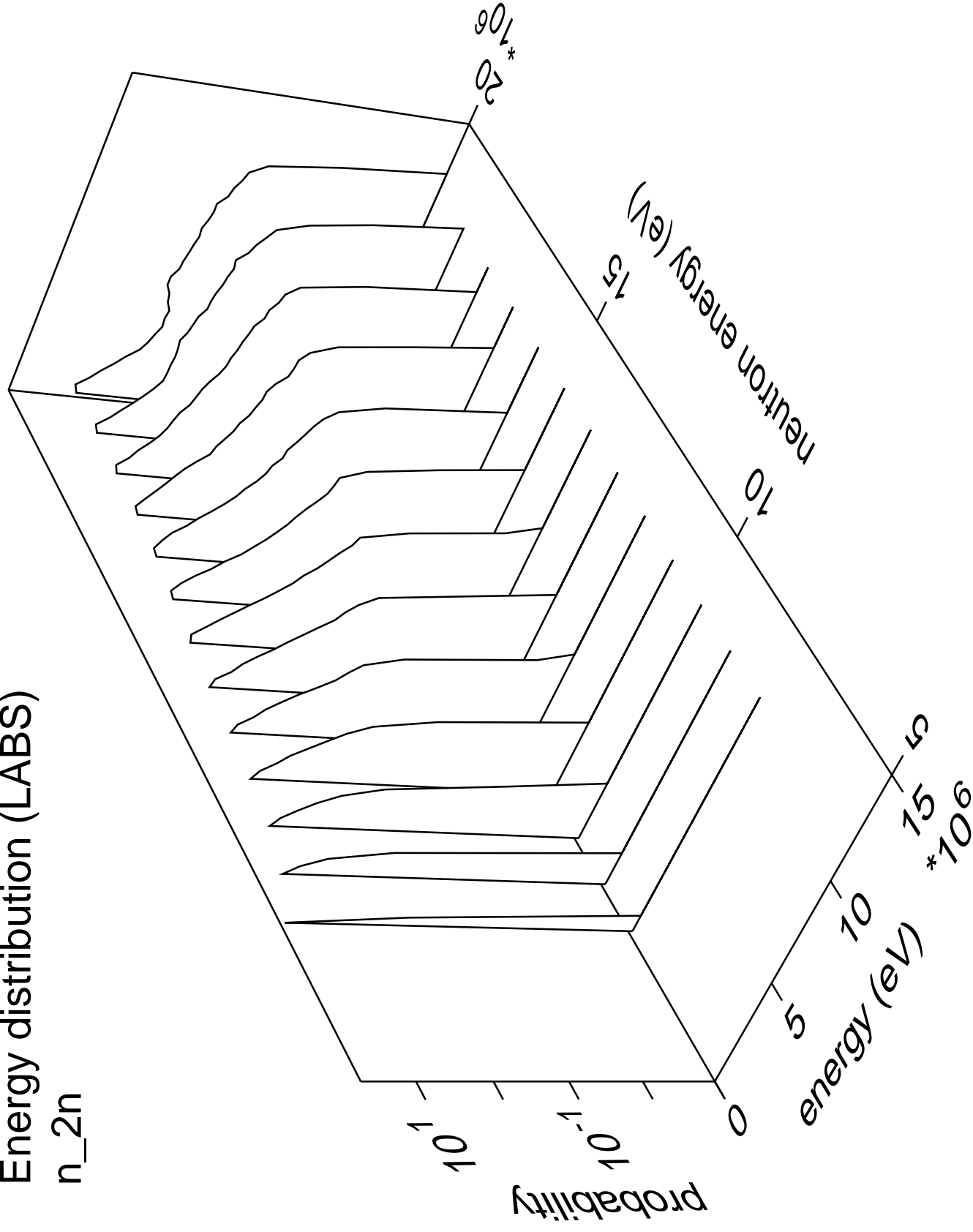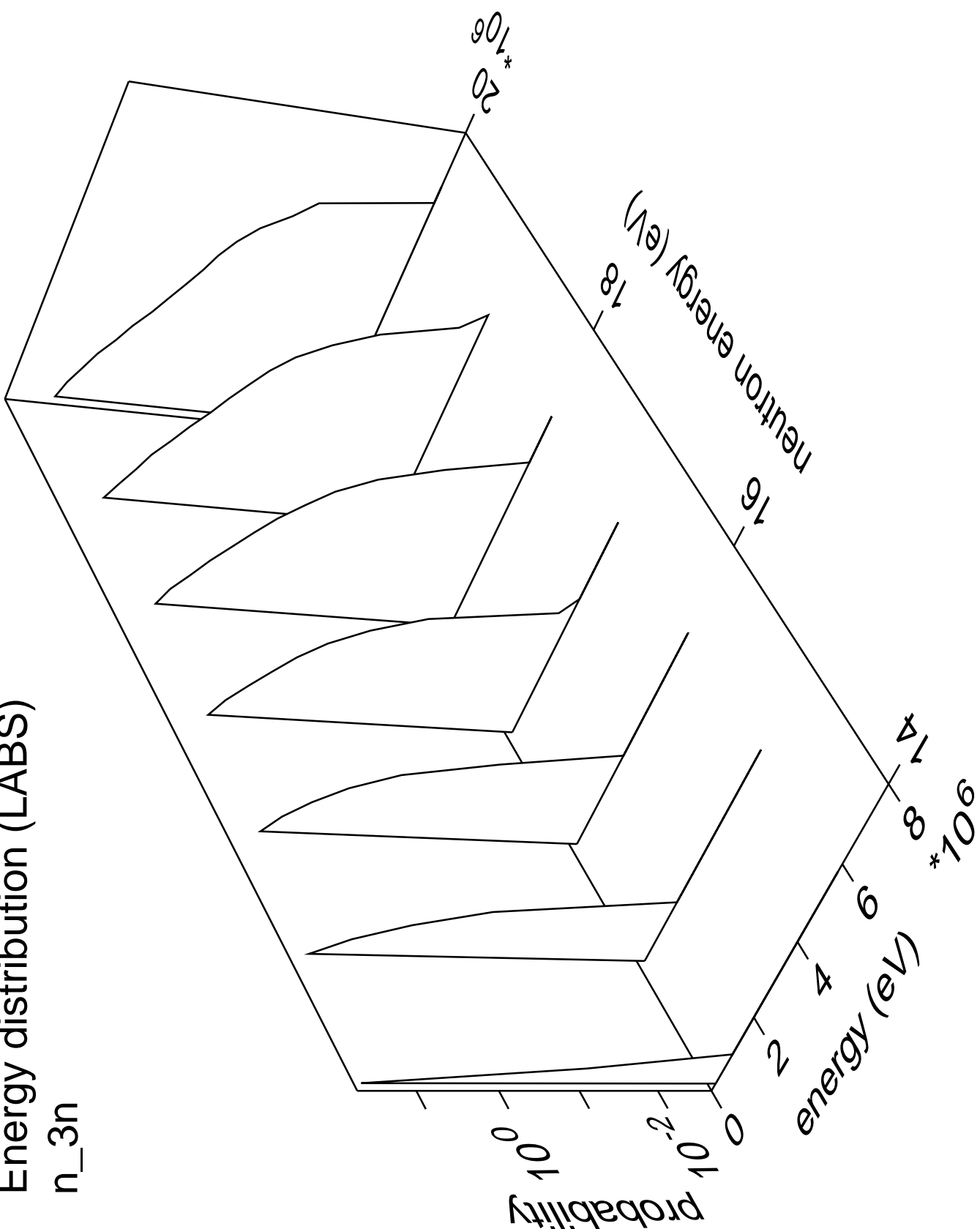
probability

neutron energy (eV)

cos(theta)

Energy distribution (LABS)
n_2n

probability

energy (eV)

neutron energy (eV)

Energy distribution (LABS)
n_3n

probability

neutron energy (eV)

energy (eV)

Energy distribution (LABS)
n_na

probability

energy (eV)

neutron energy (eV)

Energy distribution (LABS)
n_np

probability
10^1
10^{-1}

energy (eV)
0
2
4
6
8
10
$*10^6$

neutron energy (eV)
10
12
14
16
18
20
$*10^6$

Energy distribution (LABS)
n_nd

probability

energy (eV)

neutron energy (eV)

Energy distribution (LABS)
n_n_cont

probability

10^1

10^{-1}

energy (eV)

0   5   10   15   20

*10⁶

neutron energy (eV)

5   10   15

20

*10⁶
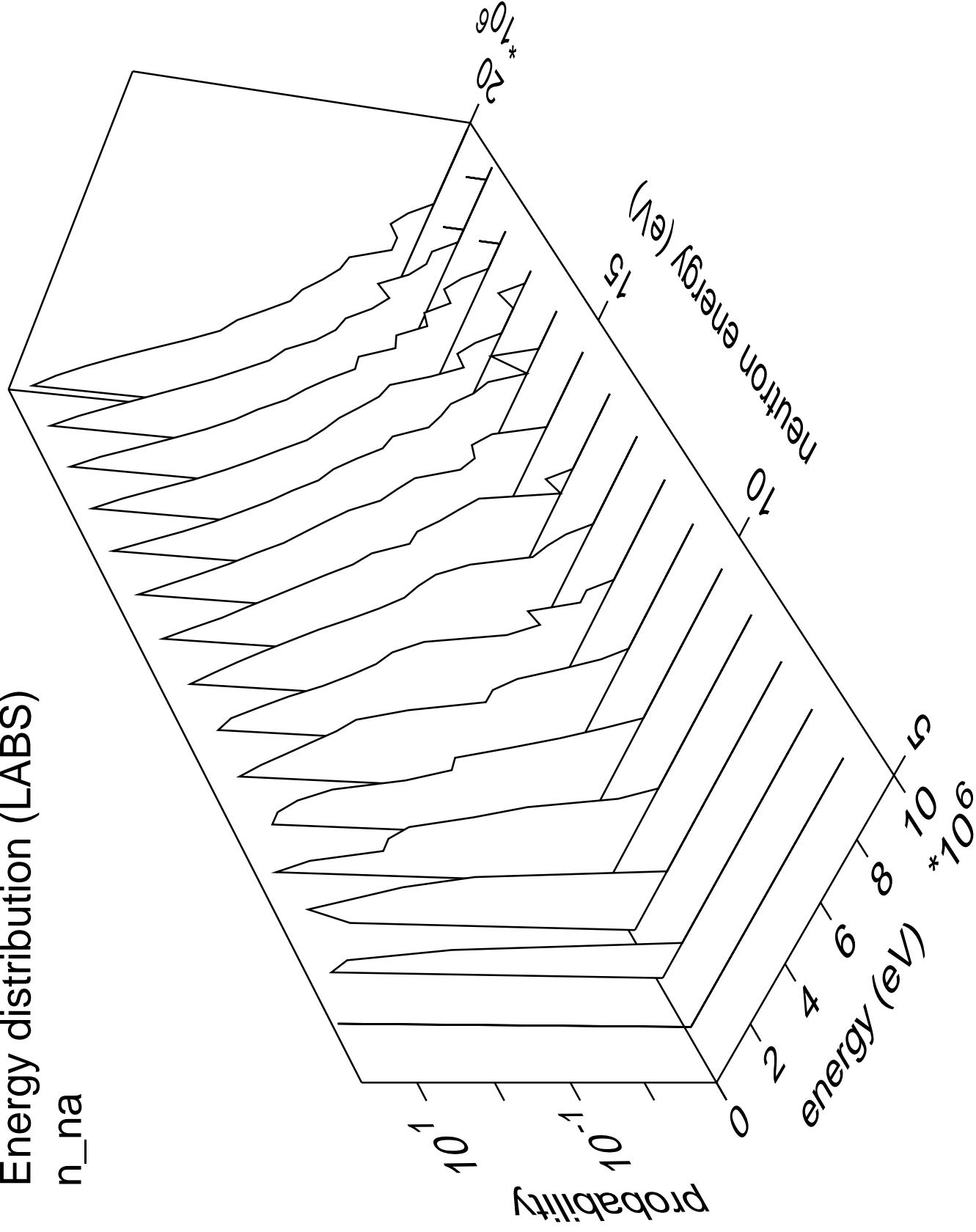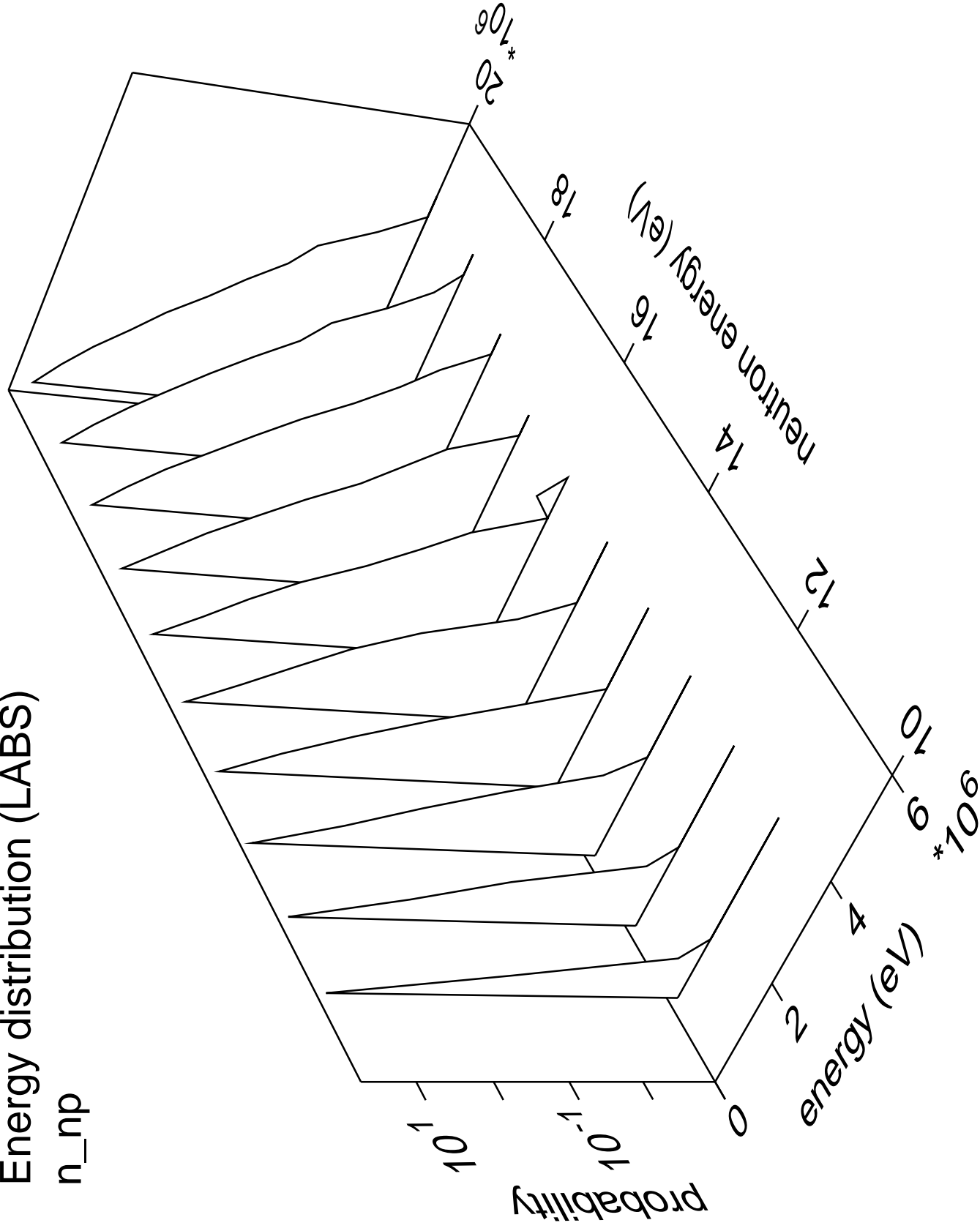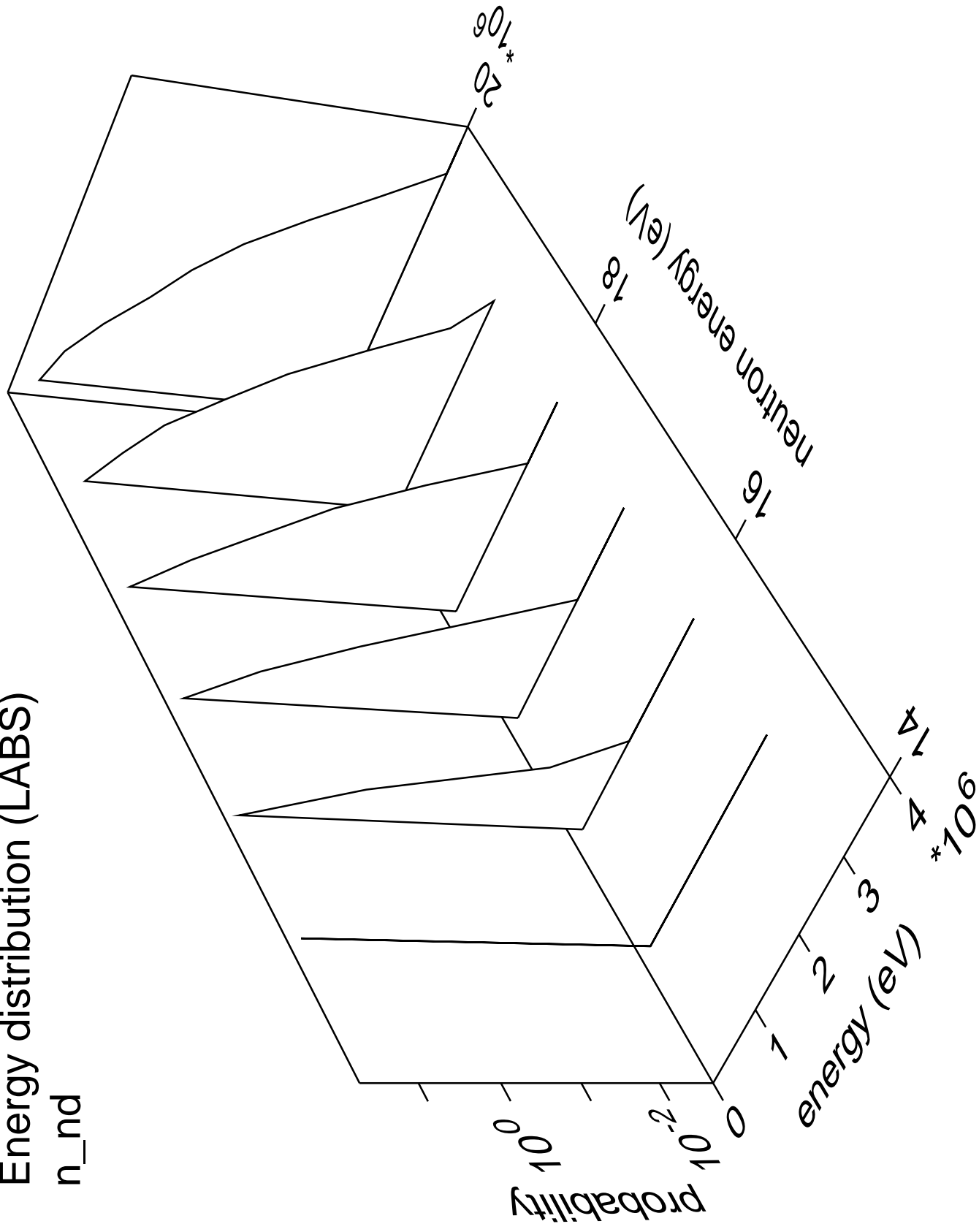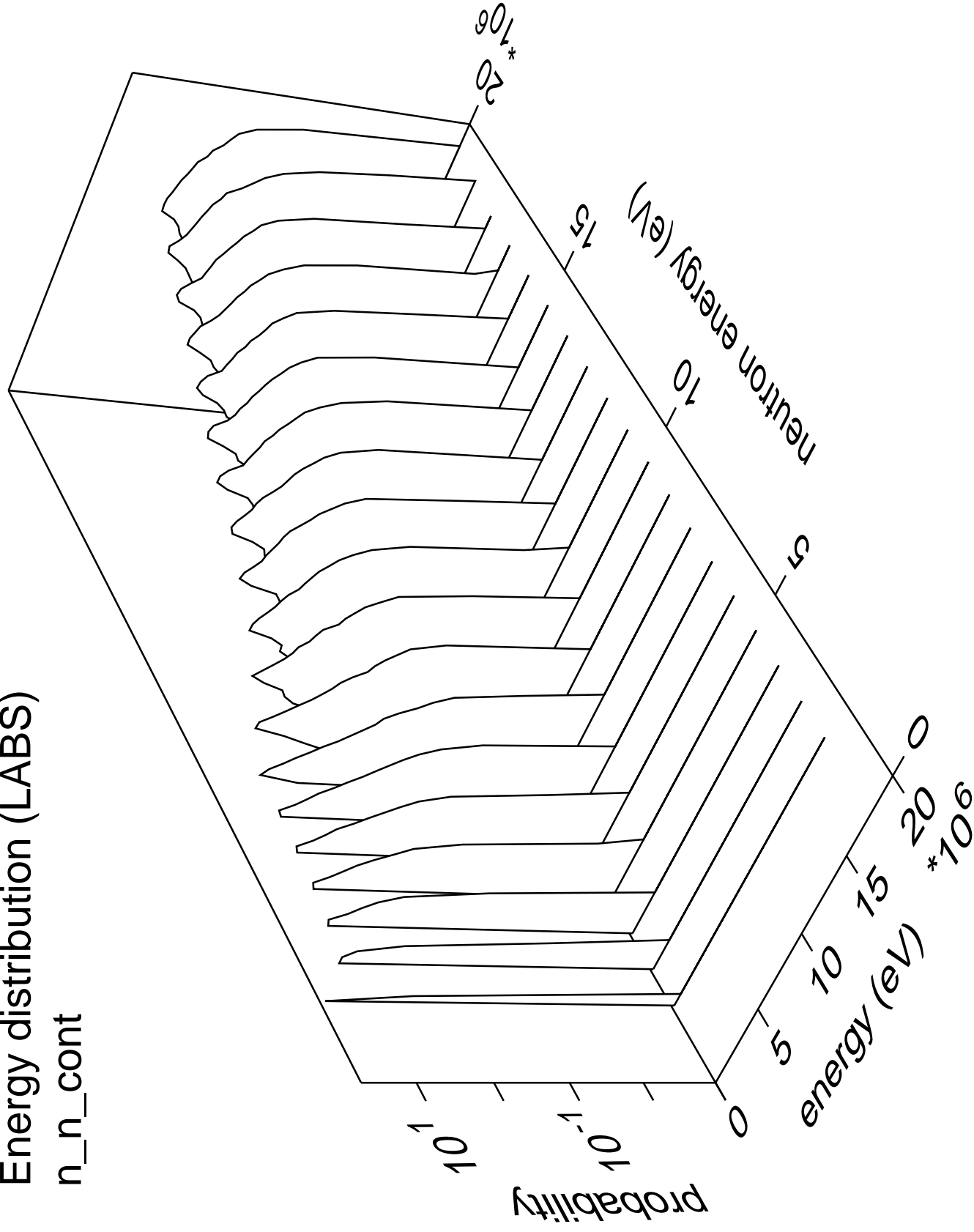
Gamma energy distribution
Capture

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶
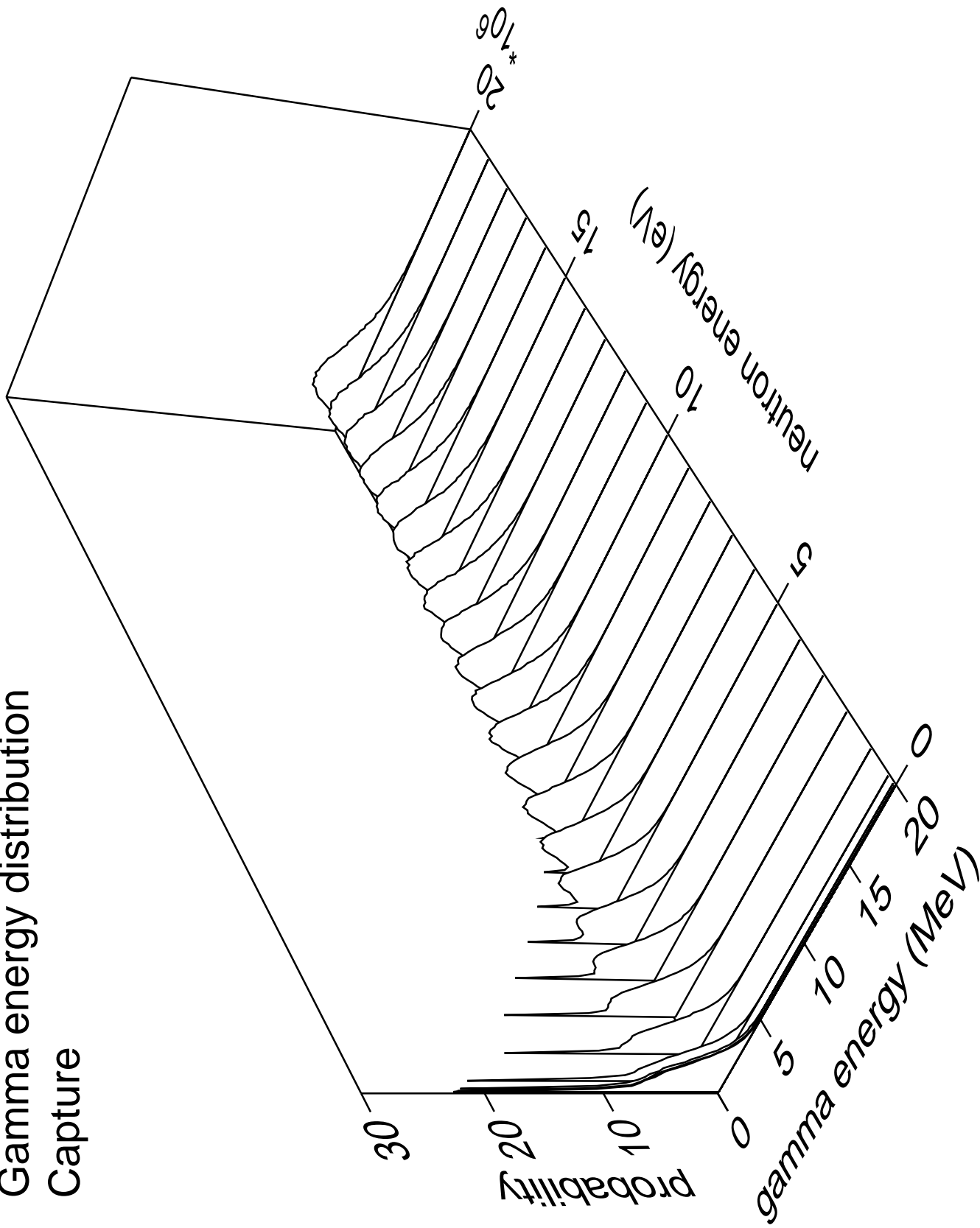
Gamma angles distribution
Capture

Gamma multiplicities distribution
Capture

probability

multiplicity

neutron energy (eV)

*10⁶

Gamma energy distribution
n_2n

neutron energy (eV)

gamma energy (MeV)

probability

20 *10⁶

0   5   10   15   20

5   10   15   20

20   40   60   80   100

Gamma angles distribution
n_2n

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

1.0 0.5 0.0 -0.5 -1.0
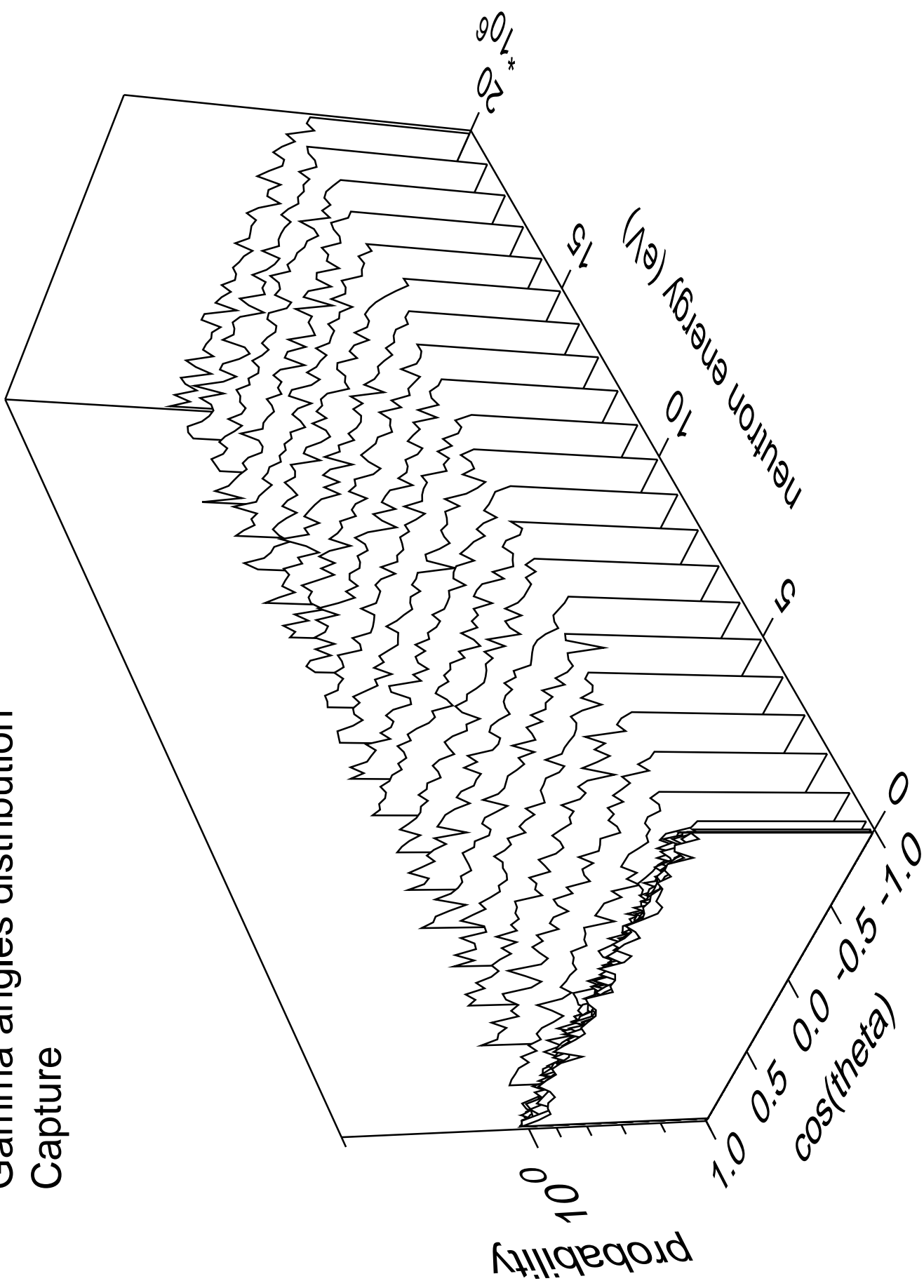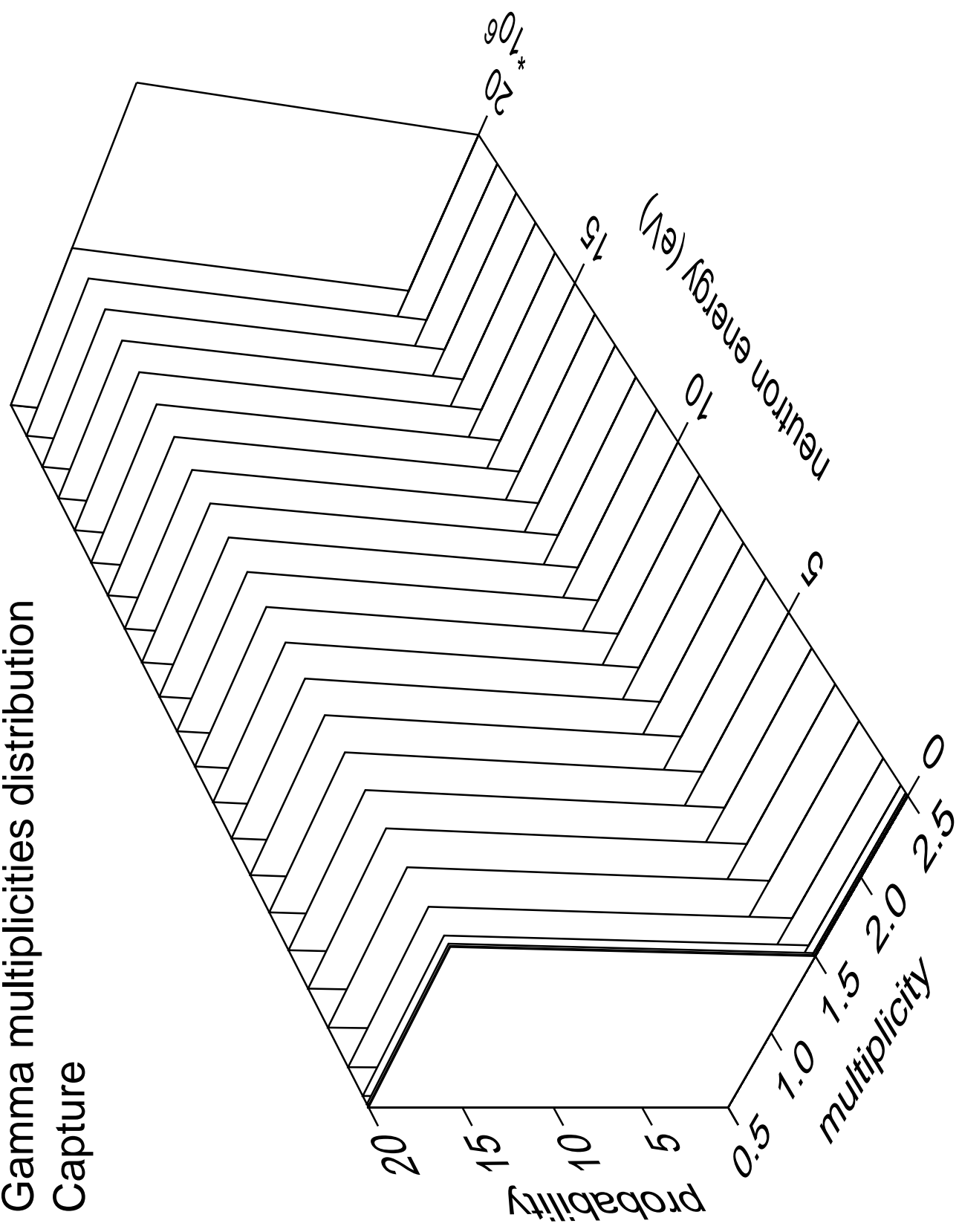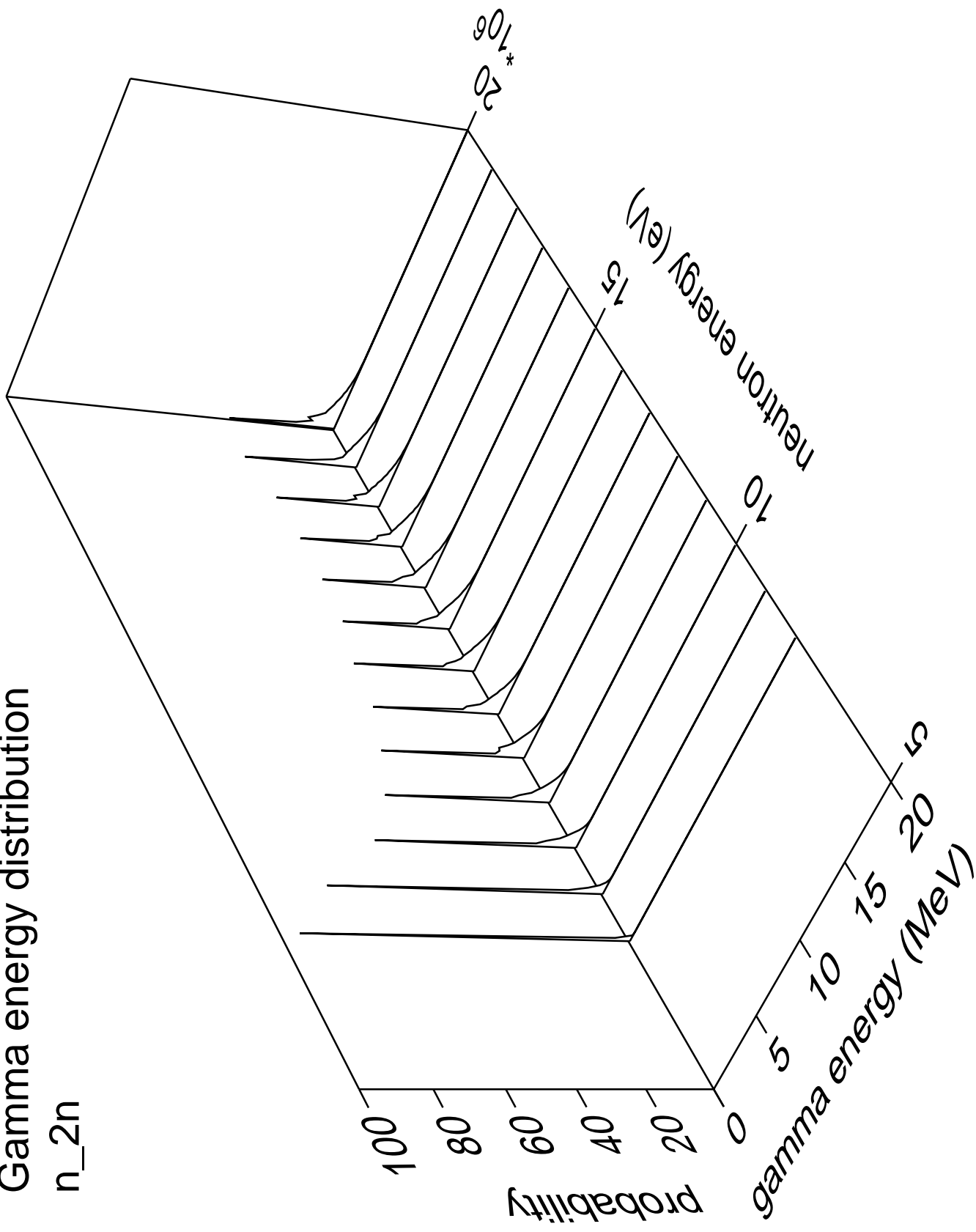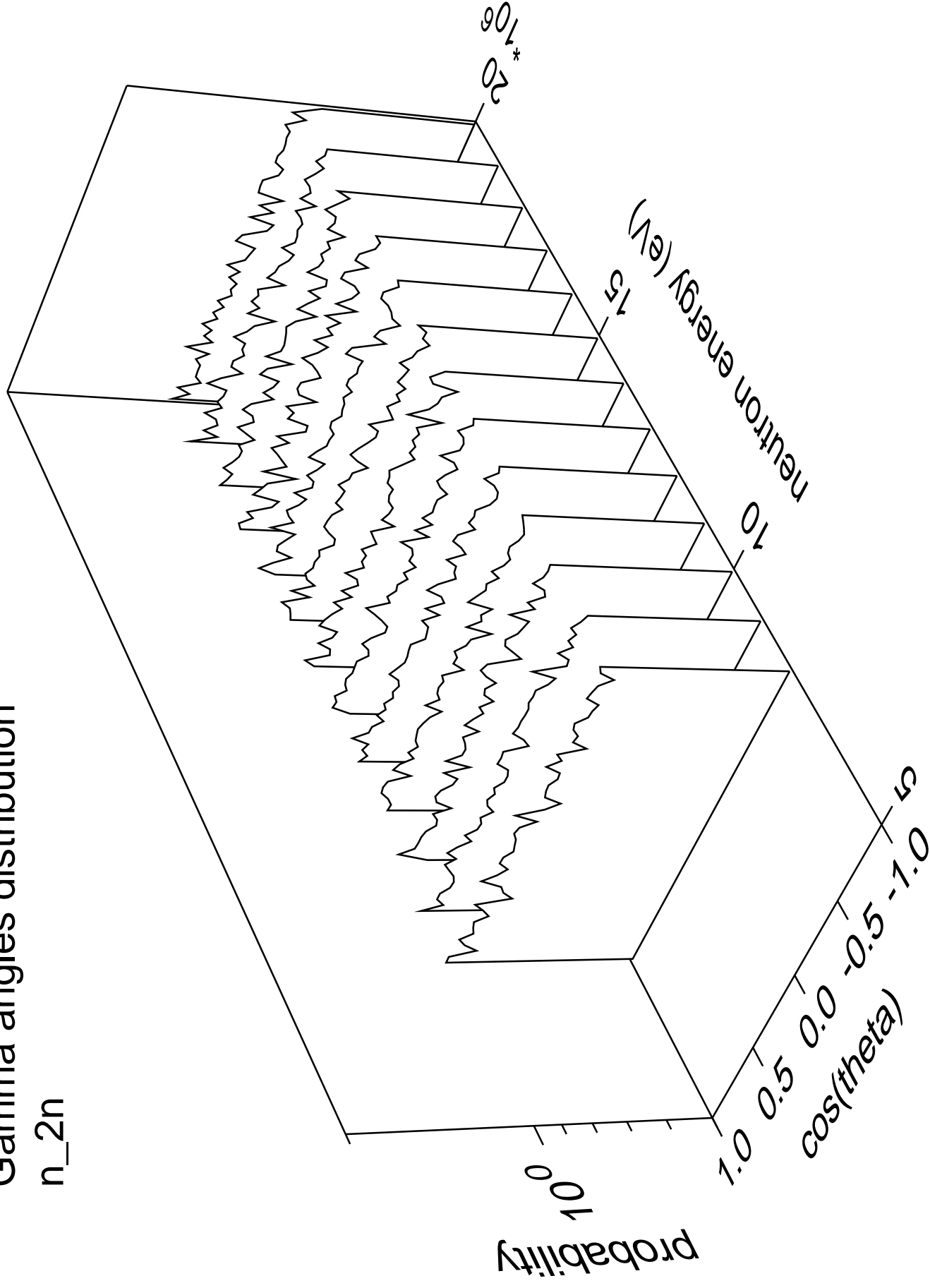
Gamma multiplicities distribution
n_2n

Gamma energy distribution
n_3n

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

18

16

14

20

15

10

5

0

100

80

60

40
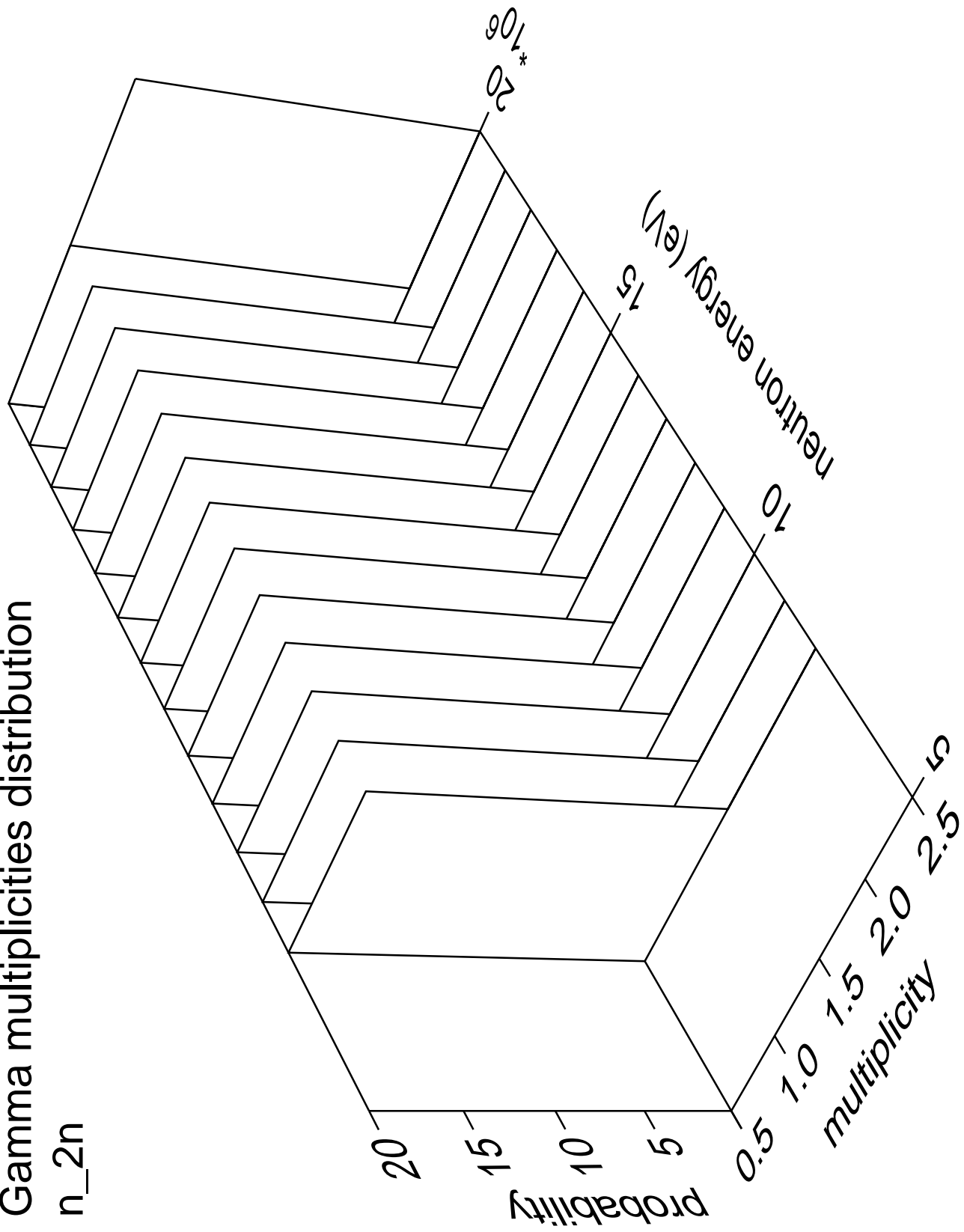
20
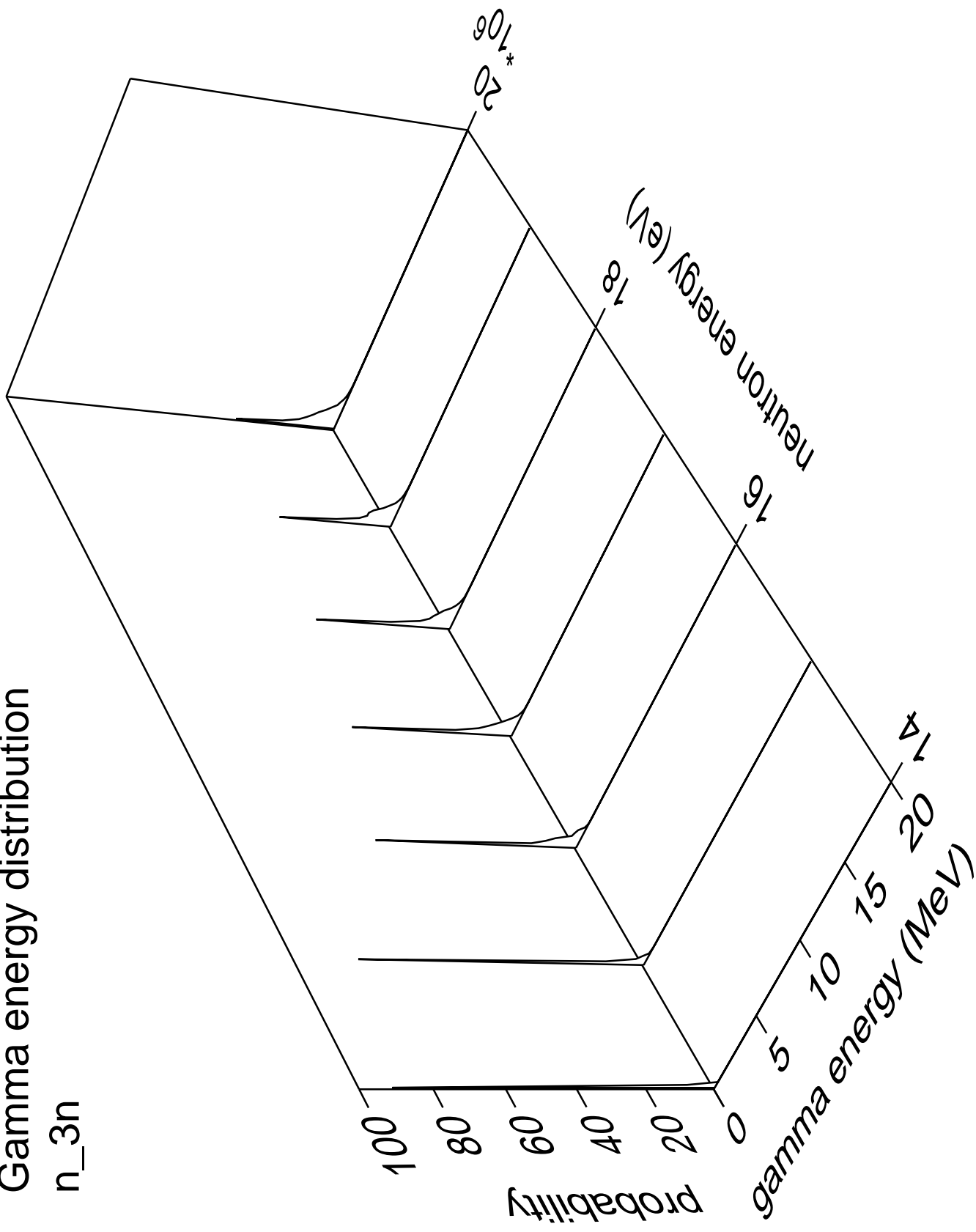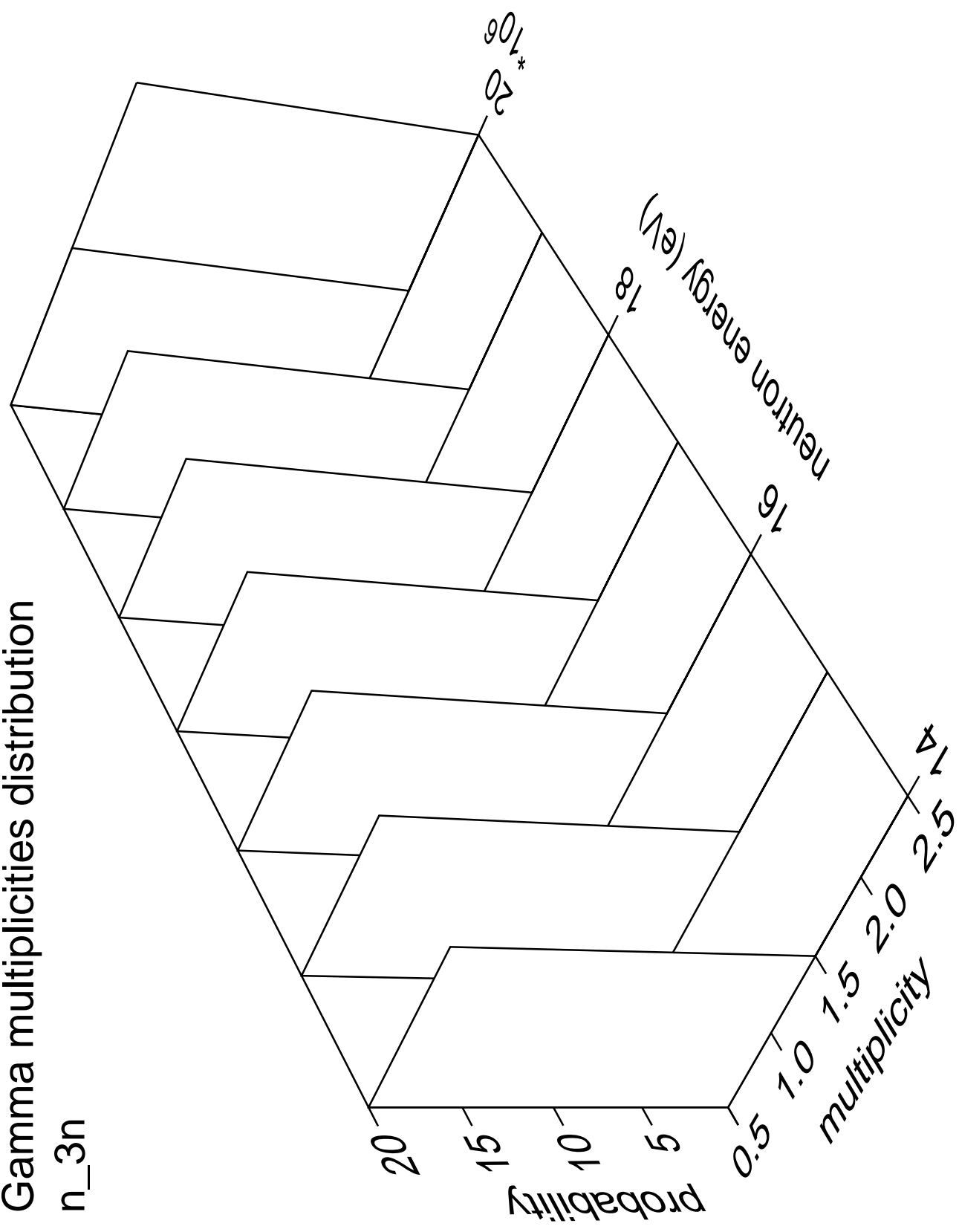
Gamma angles distribution
n_3n
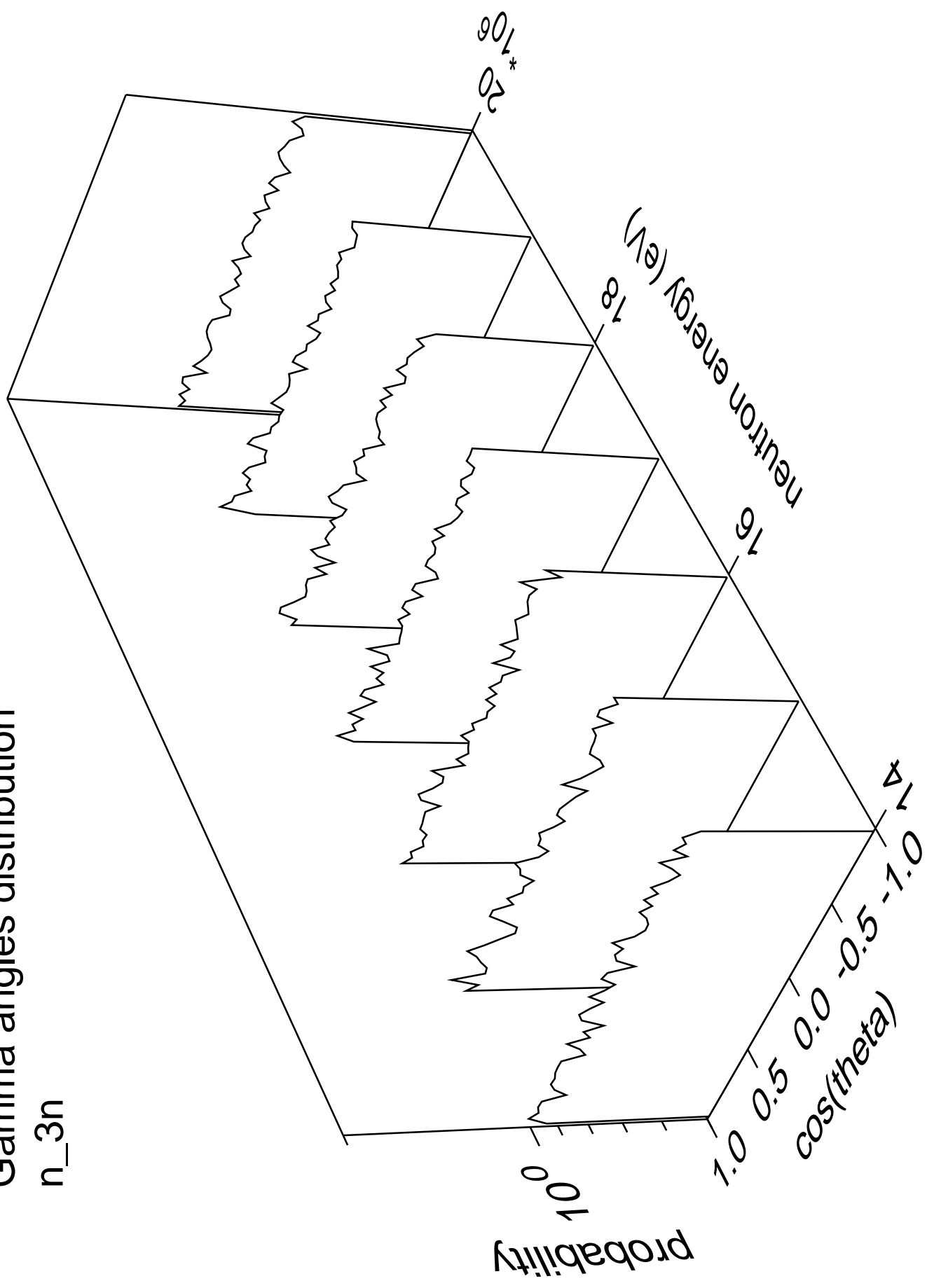
Gamma multiplicities distribution
n_3n

Gamma energy distribution
n_na
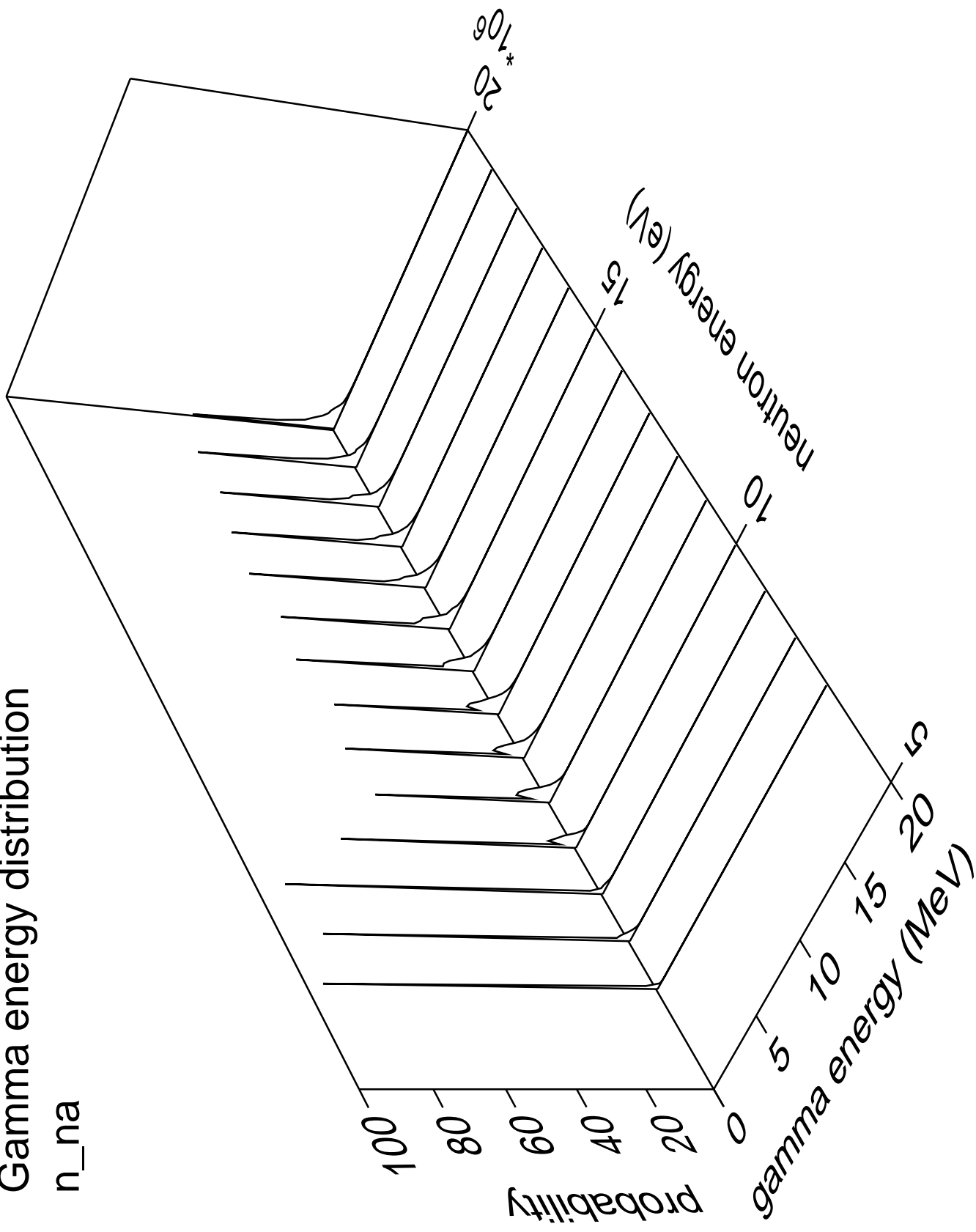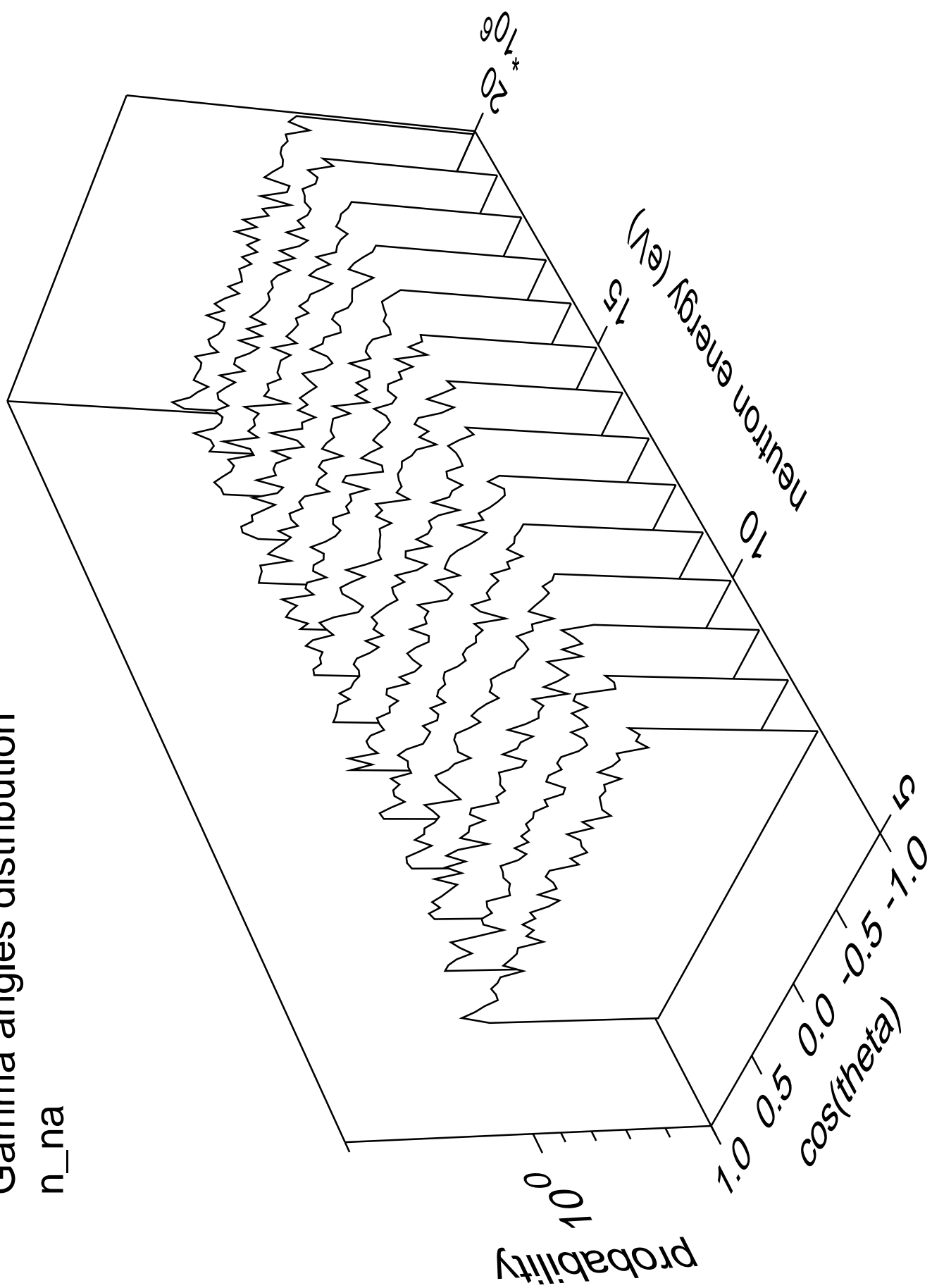
probability

gamma energy (MeV)

neutron energy (eV)

20 *10⁶

Gamma angles distribution
n_na
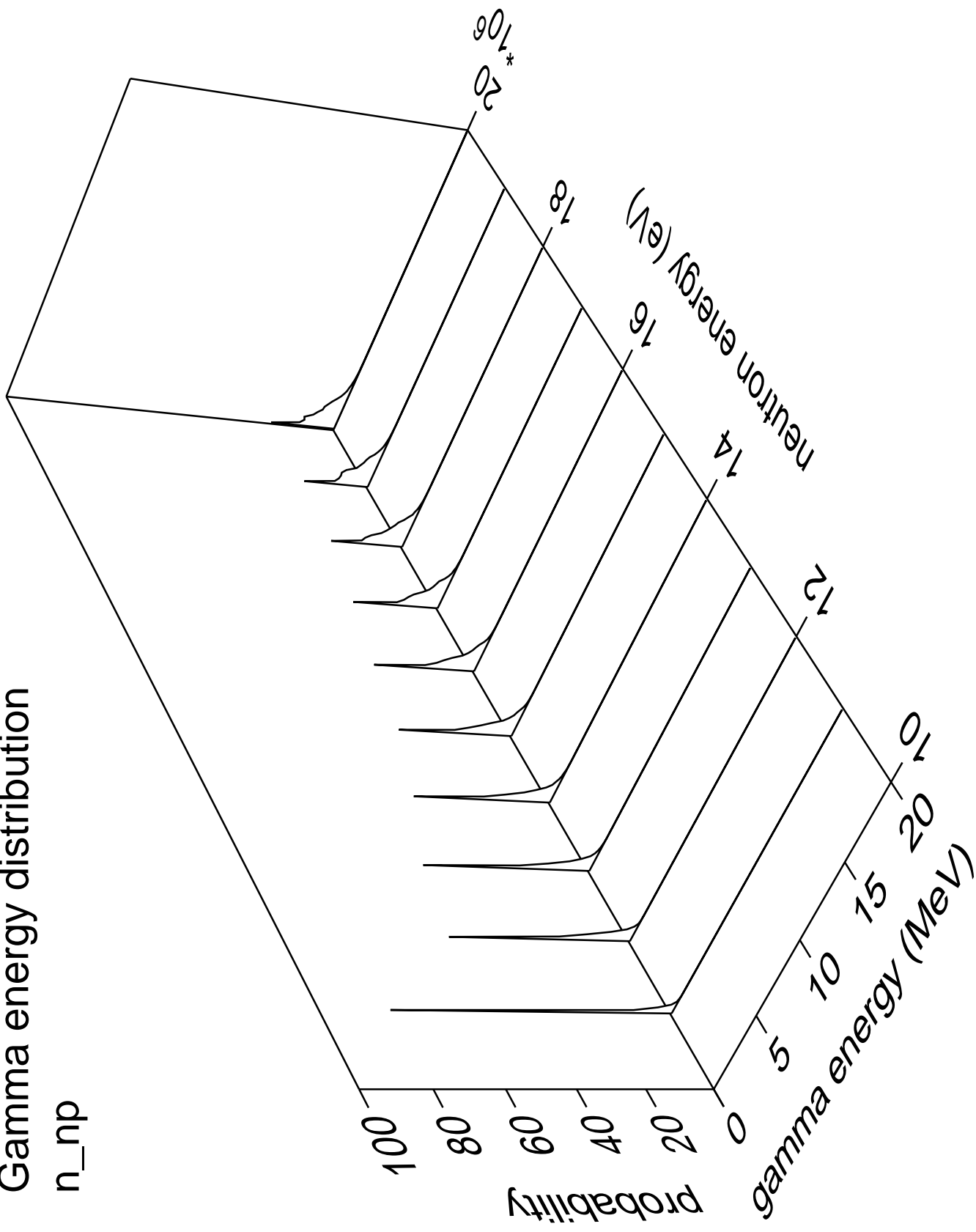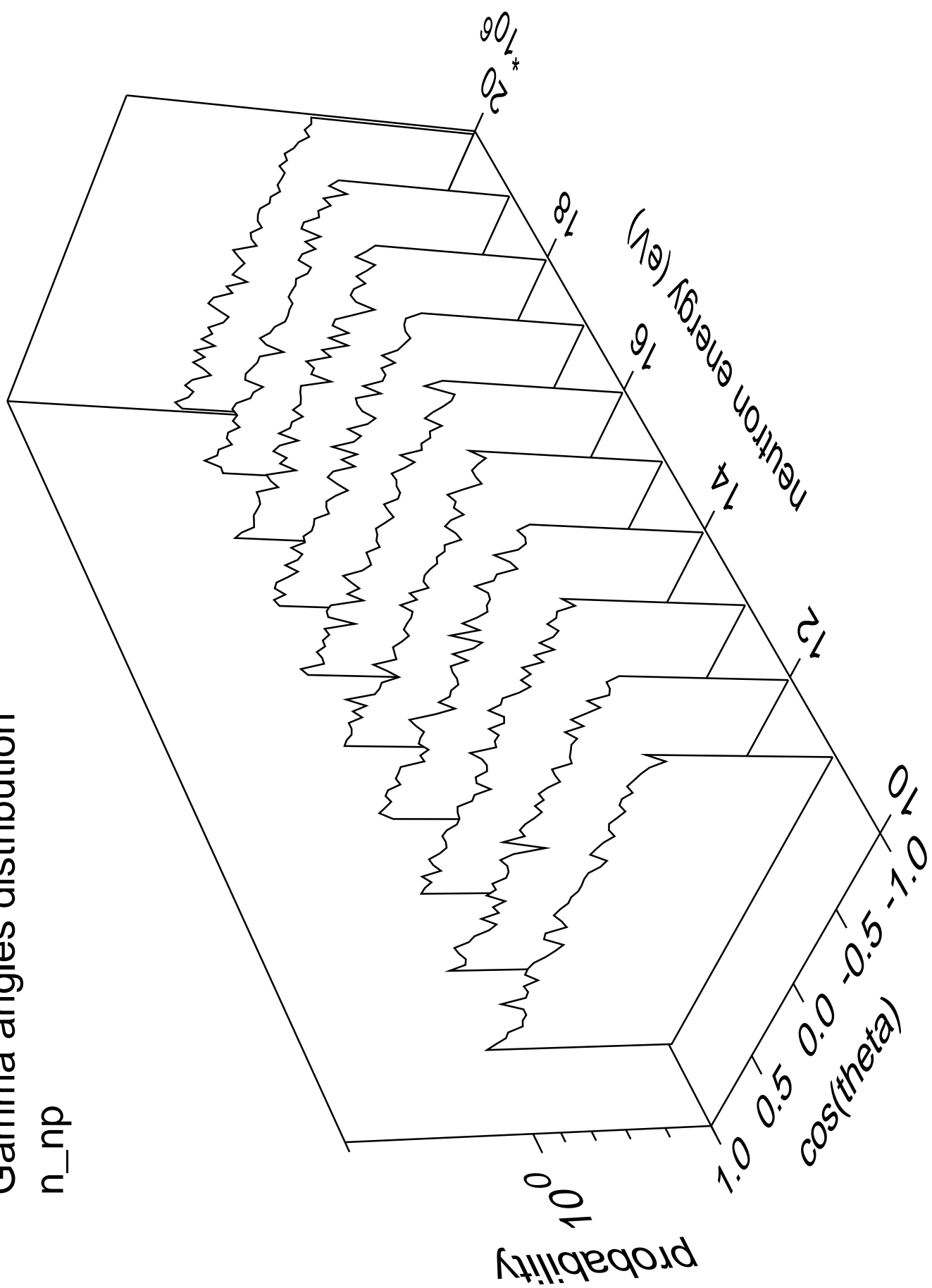
probability

neutron energy (eV)
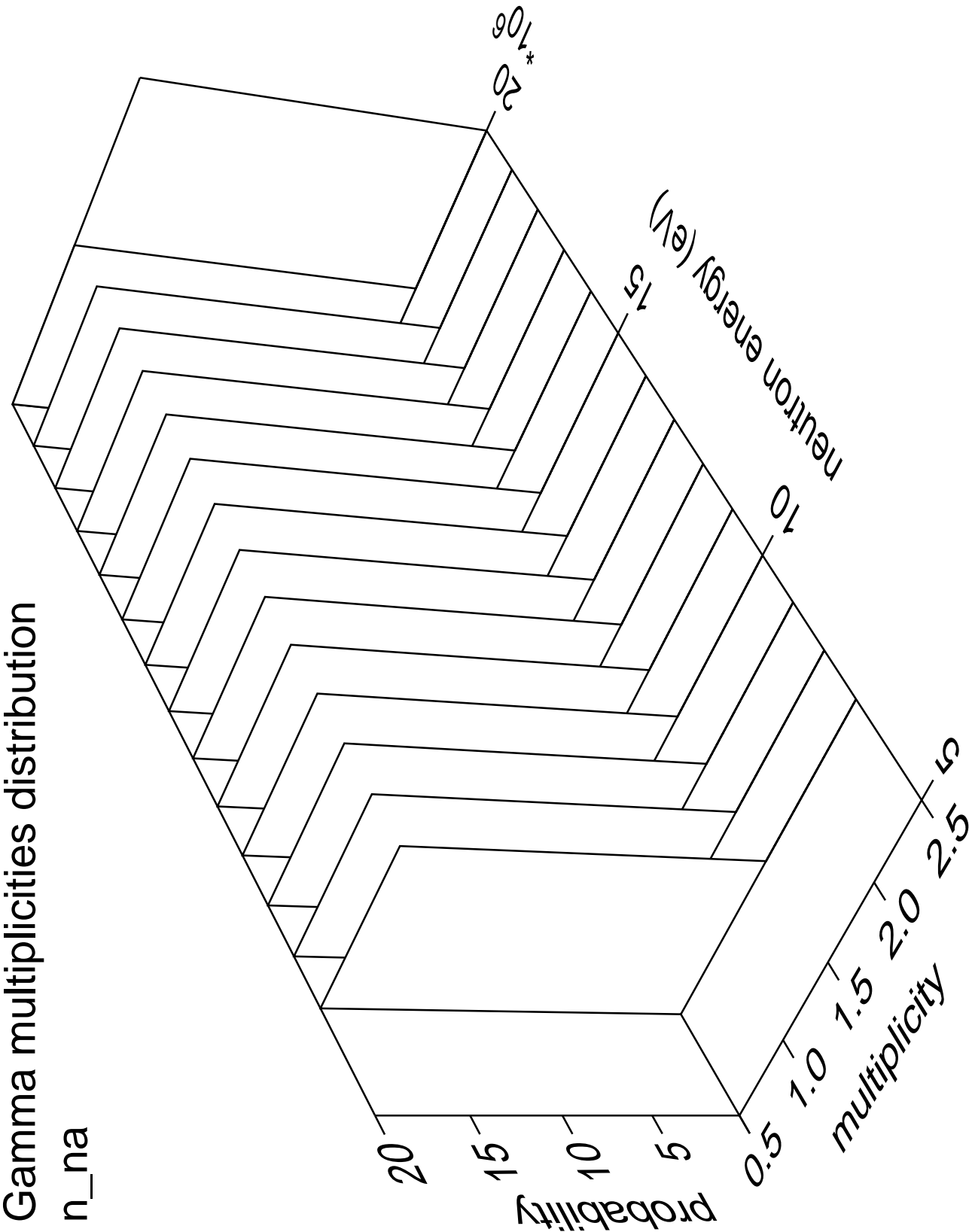
cos(theta)

20 *10^6

15

10

5

1.0 0.5 0.0 -0.5 -1.0

10^0

Gamma multiplicities distribution

Gamma energy distribution
n_np

probability

gamma energy (MeV)

neutron energy (eV)

20
18
16
14
12
10

20 *10⁶

100
80
60
40
20
0

5   10   15   20

Gamma angles distribution

n_np

probability

10^0

cos(theta)

1.0   0.5   0.0   -0.5   -1.0

neutron energy (eV)

12   14   16   18   20 $*10^6$

Gamma multiplicities distribution

Gamma energy distribution
n_n_1

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

0

5

10

15

20

100

50

0

Gamma angles distribution
n_n_1

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

Gamma multiplicities distribution
n_n_1

probability

multiplicity

neutron energy (eV)

0.5 1.0 1.5 2.0 2.5

0 5 10 15 20 *10⁶

5 10 15 20
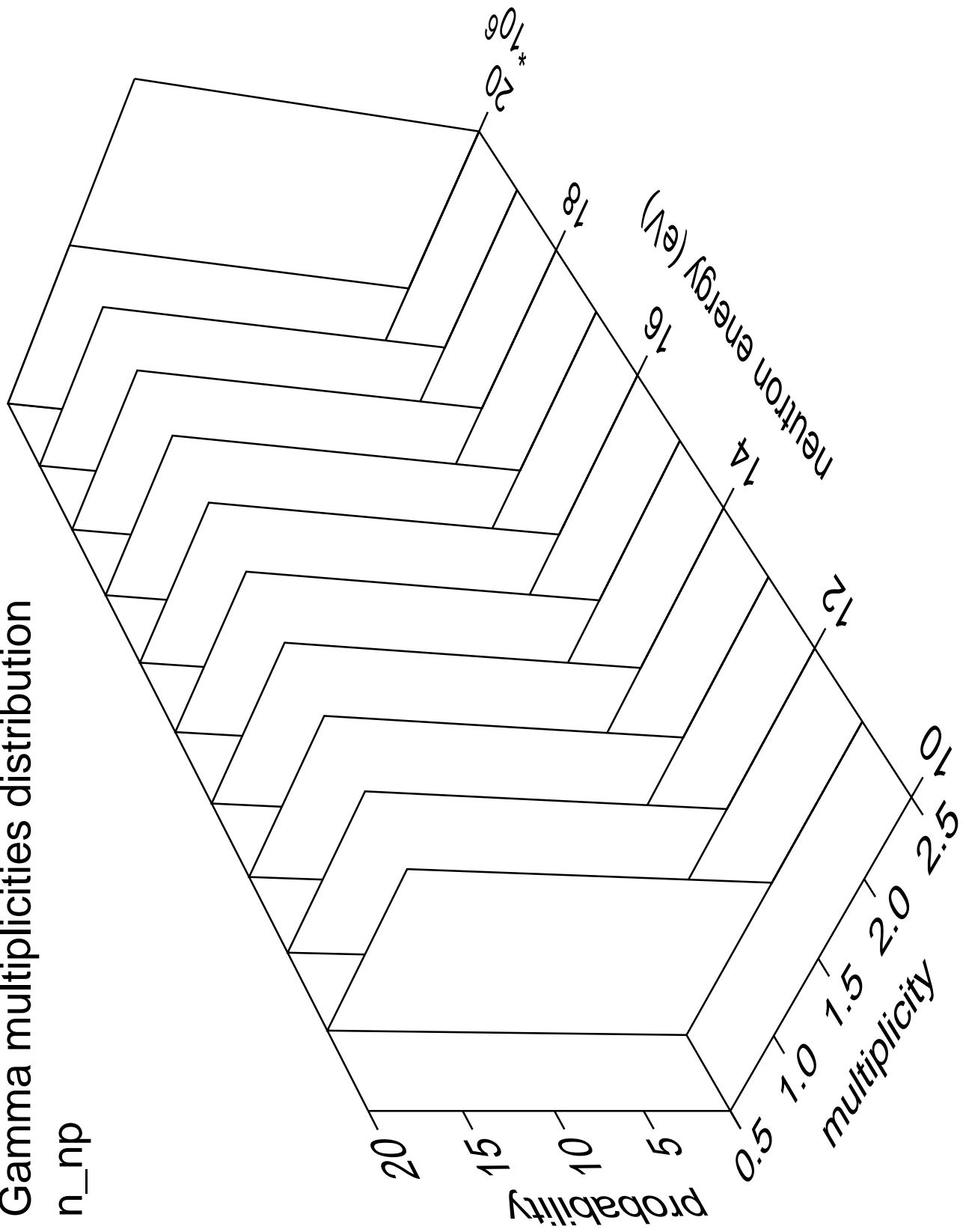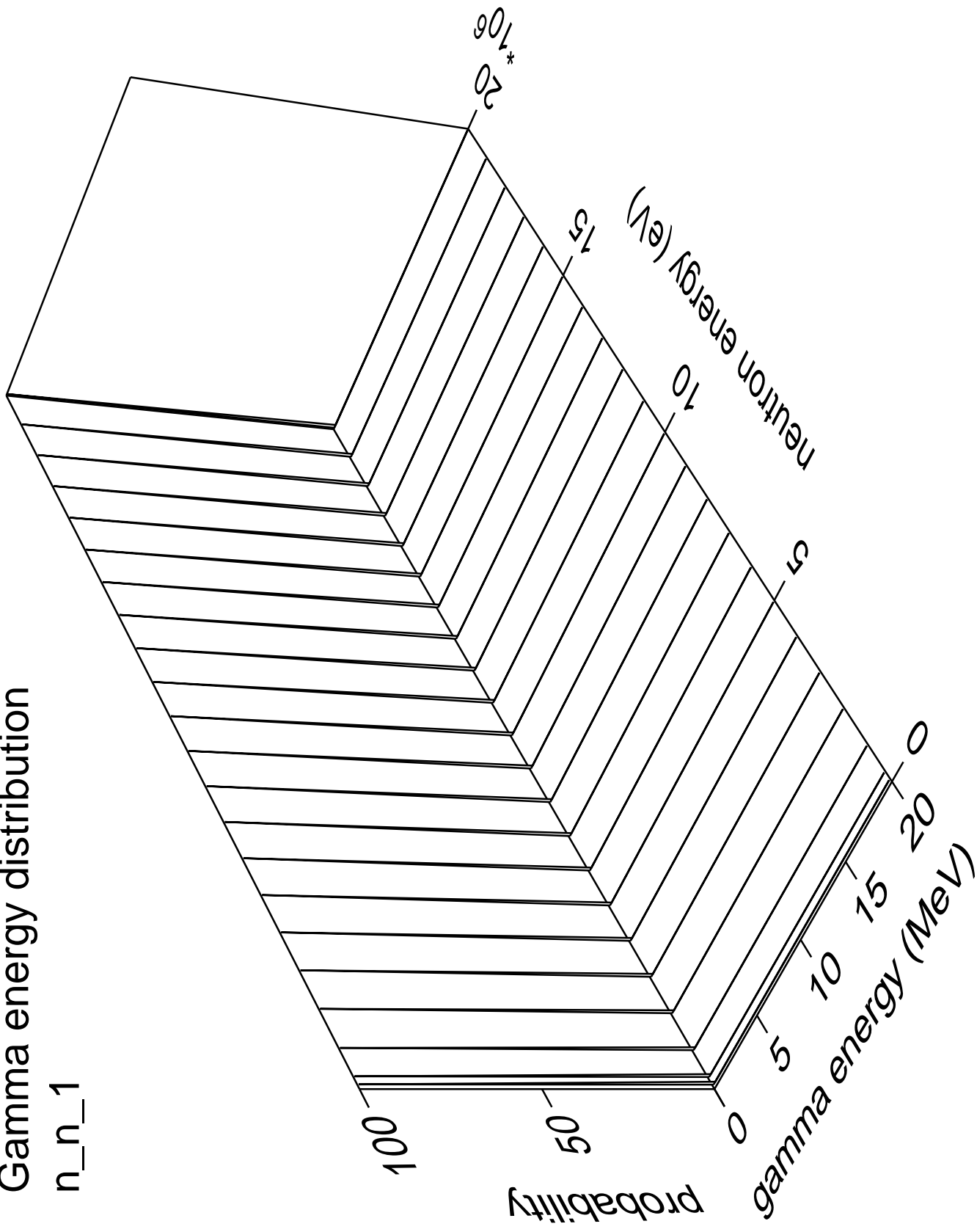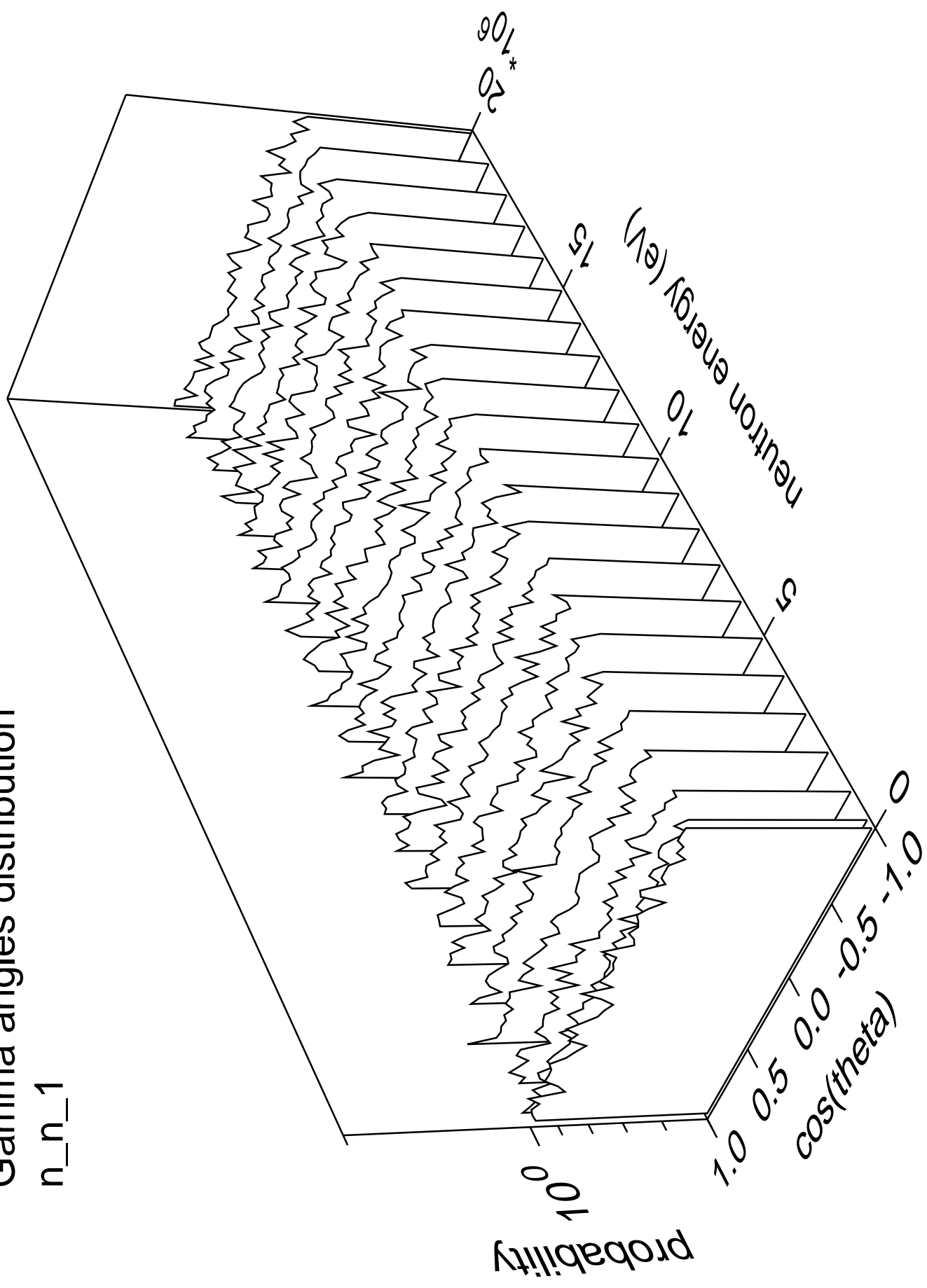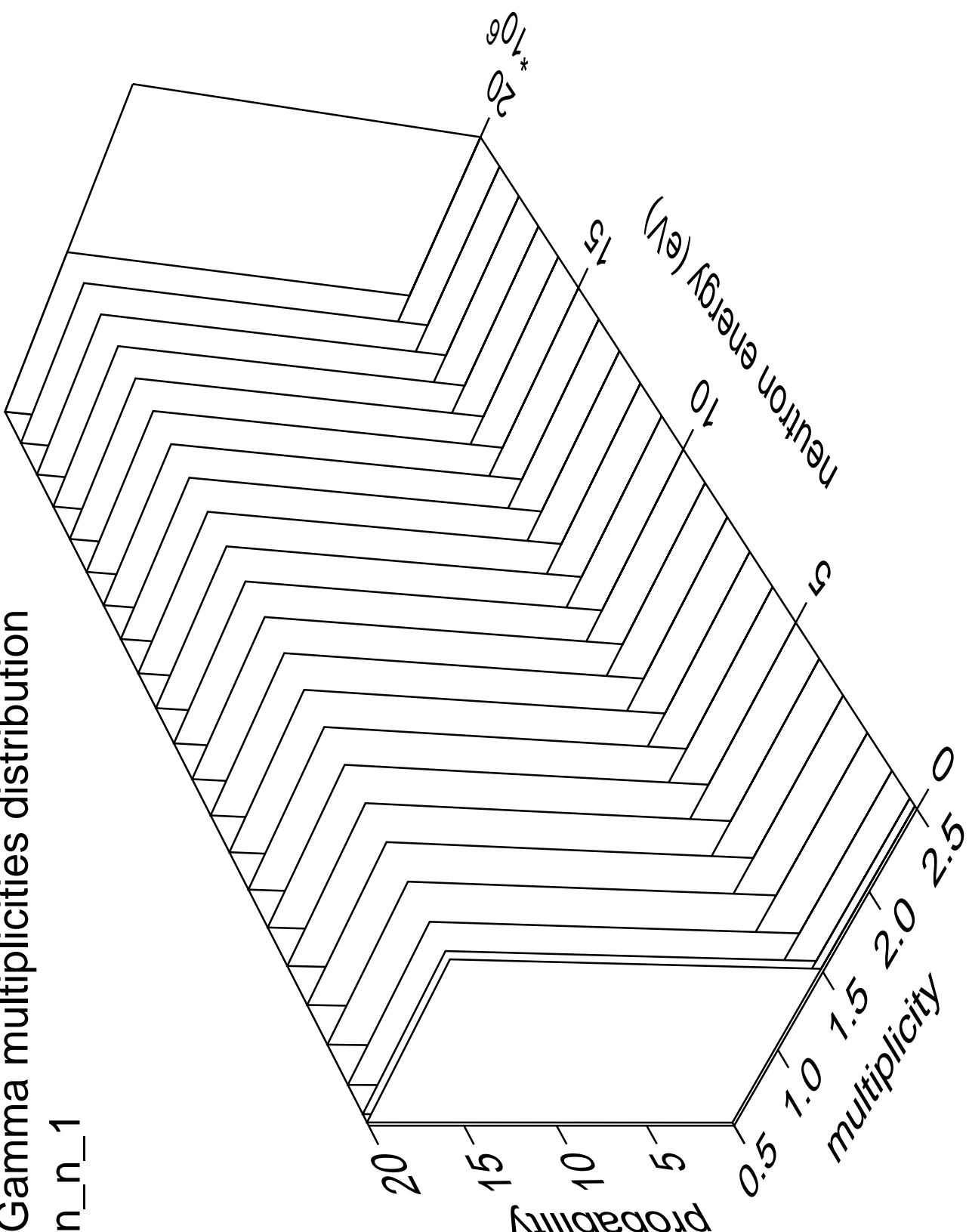
Gamma energy distribution
n_n_2

Gamma angles distribution
n_n_2

probability

neutron energy (eV)

cos(theta)
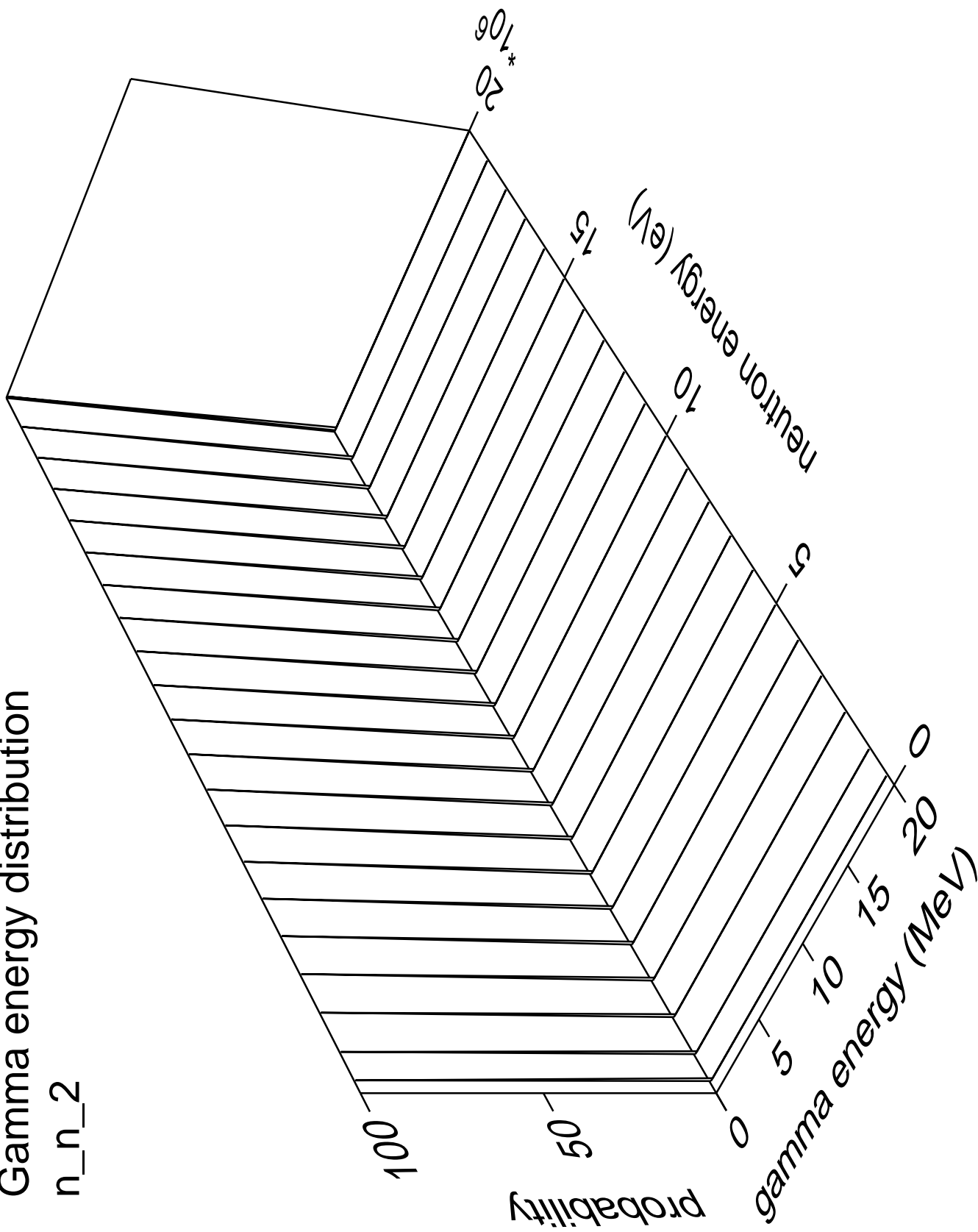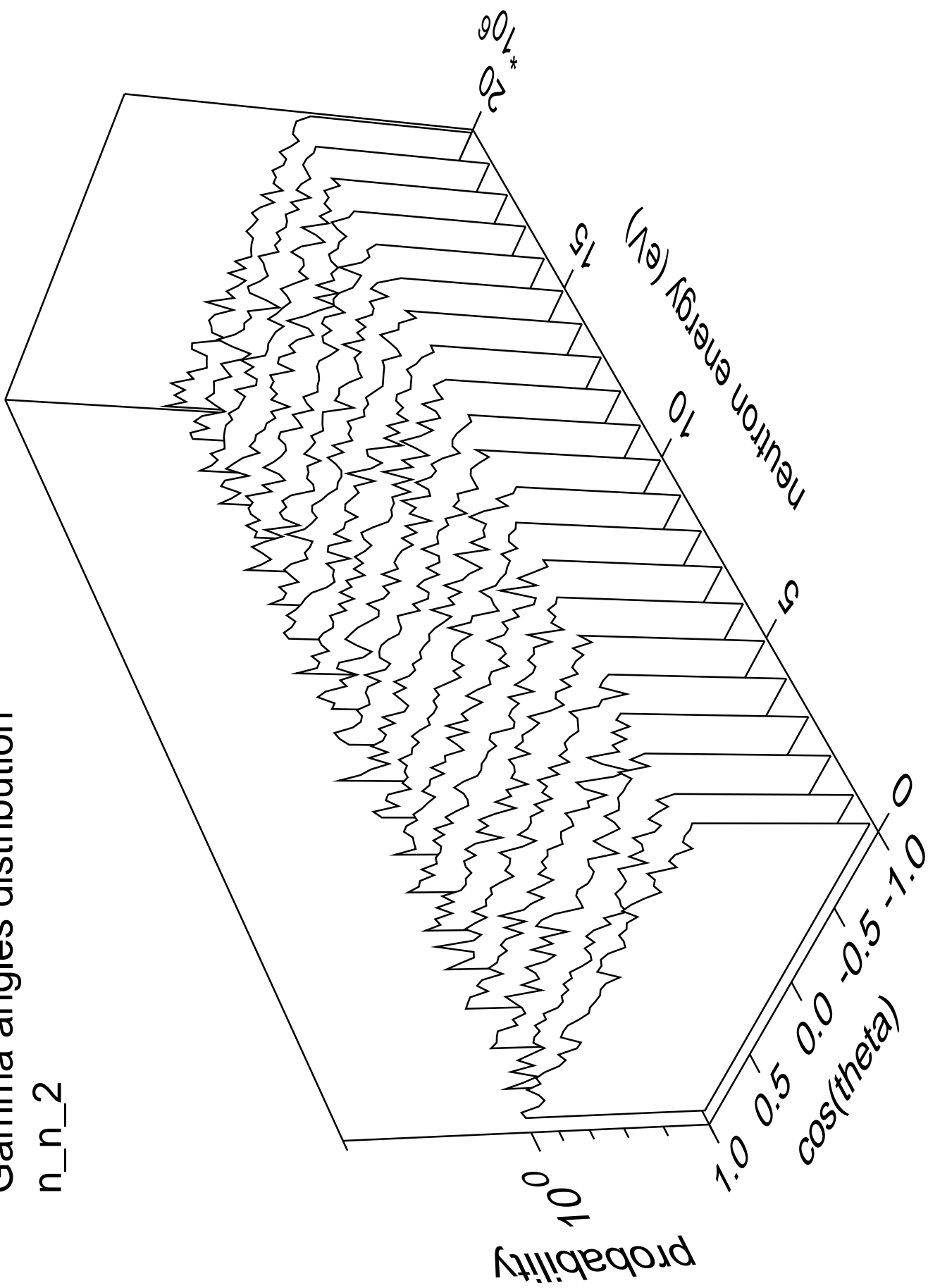
Gamma multiplicities distribution n_n_2

Gamma energy distribution
n_n_3

probability

100

50

0

gamma energy (MeV)

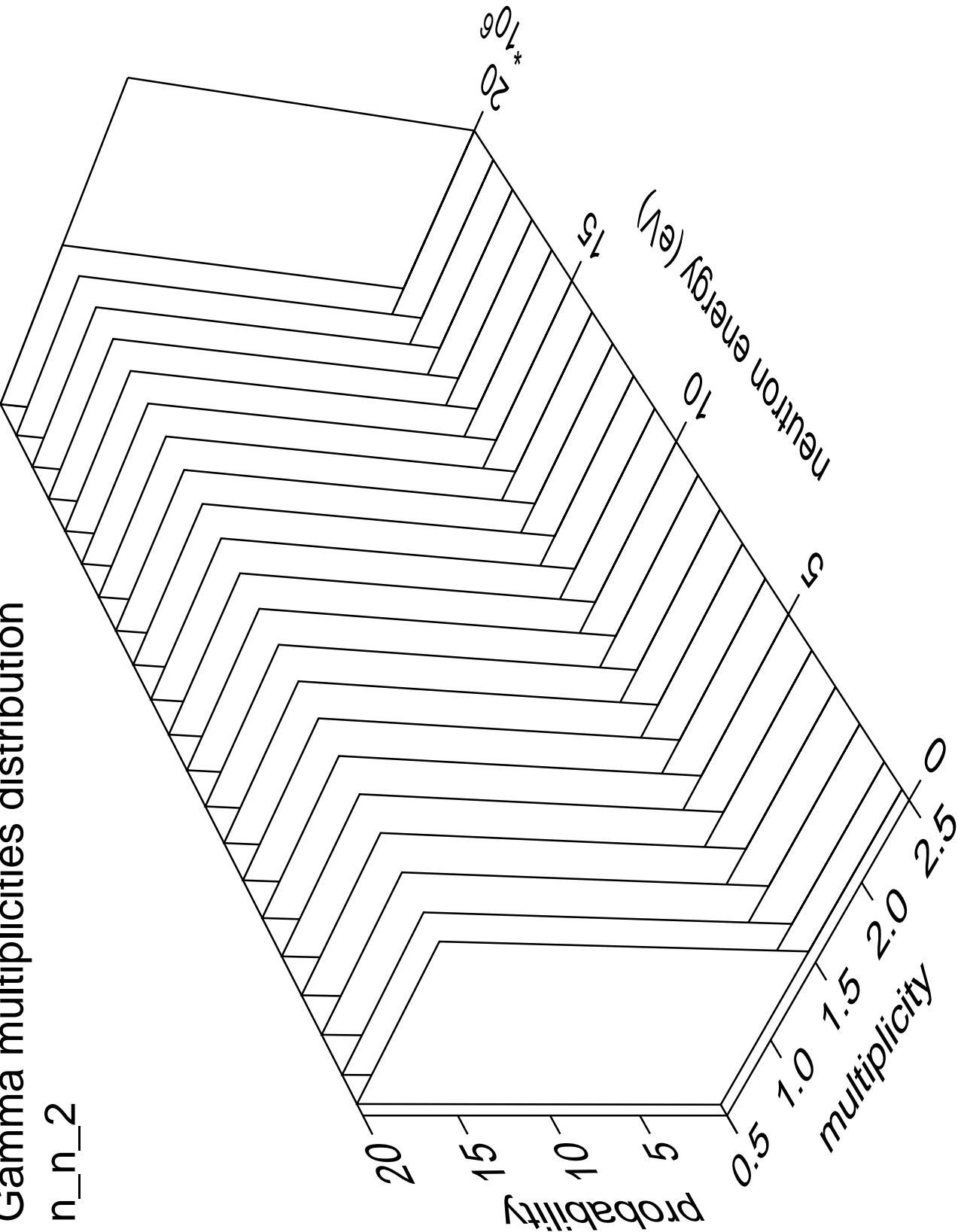0   5   10   15   20

neutron energy (eV)

5   10   15   20
*10⁶
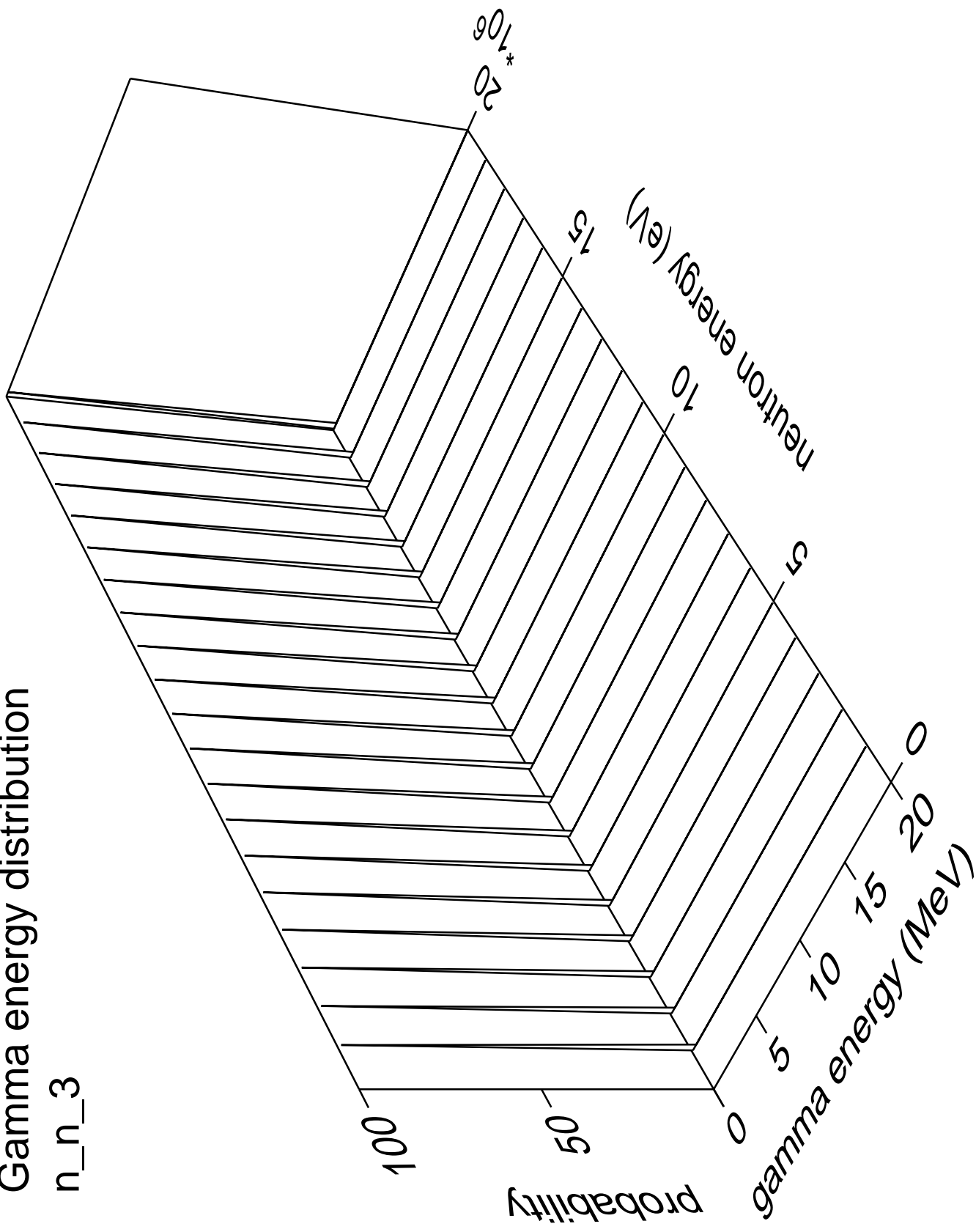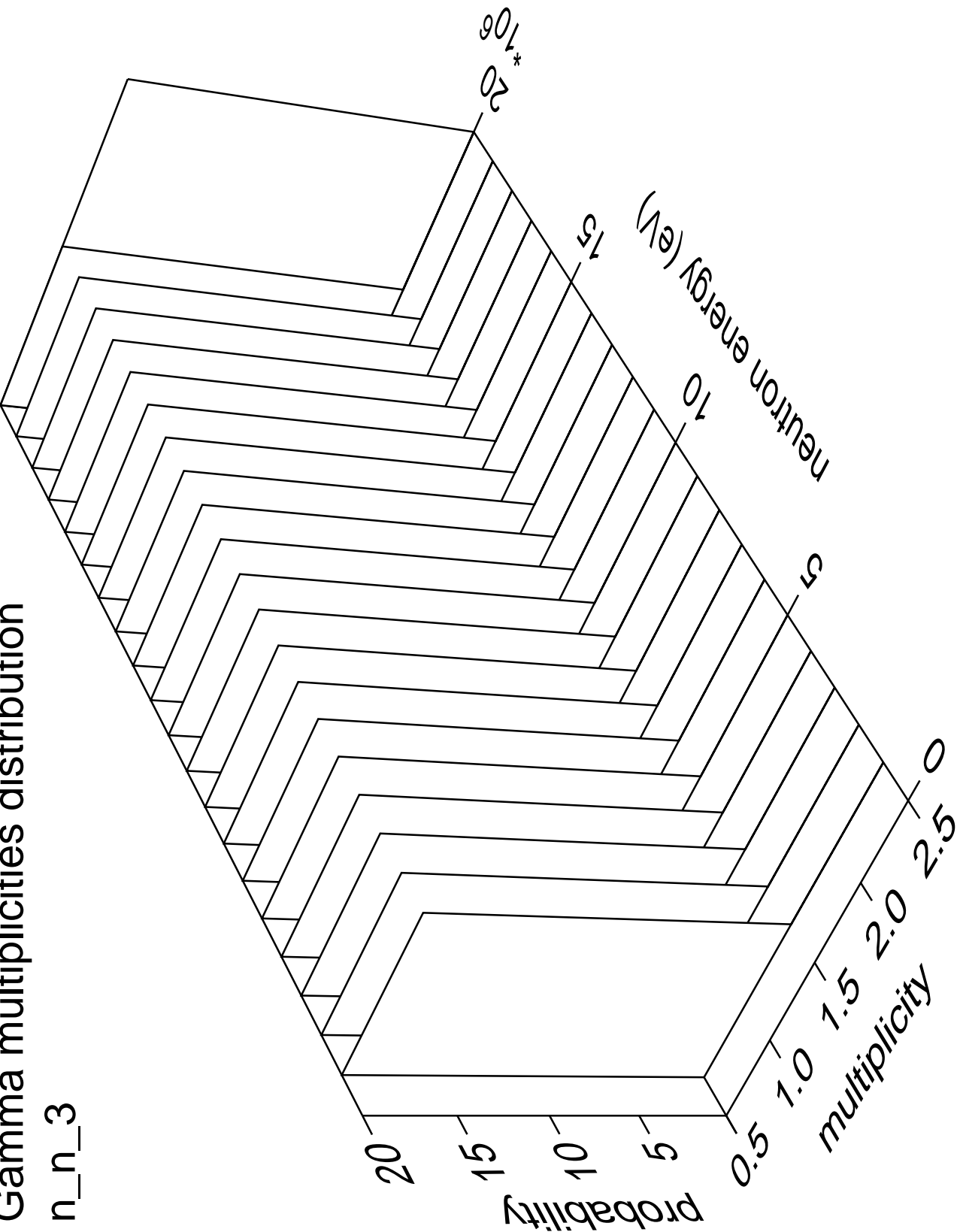
Gamma angles distribution
n_n_3
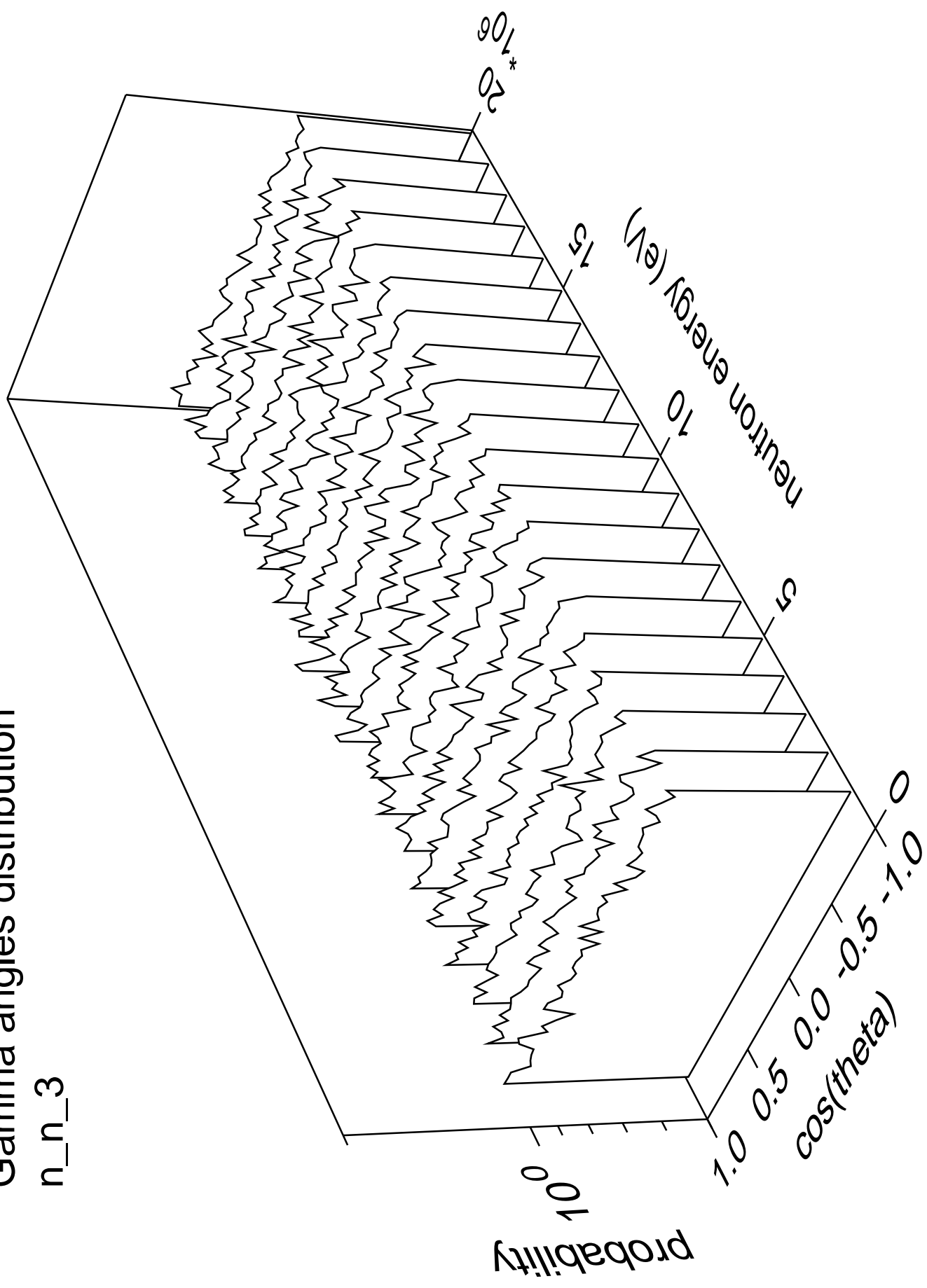
Gamma multiplicities distribution
n_n_3

Gamma energy distribution
n_n_4

probability

neutron energy (eV)

gamma energy (MeV)

100

50

0

20

15

10

5

*10⁶

0

5

10

15

20

Gamma angles distribution
n_n_4

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10⁰
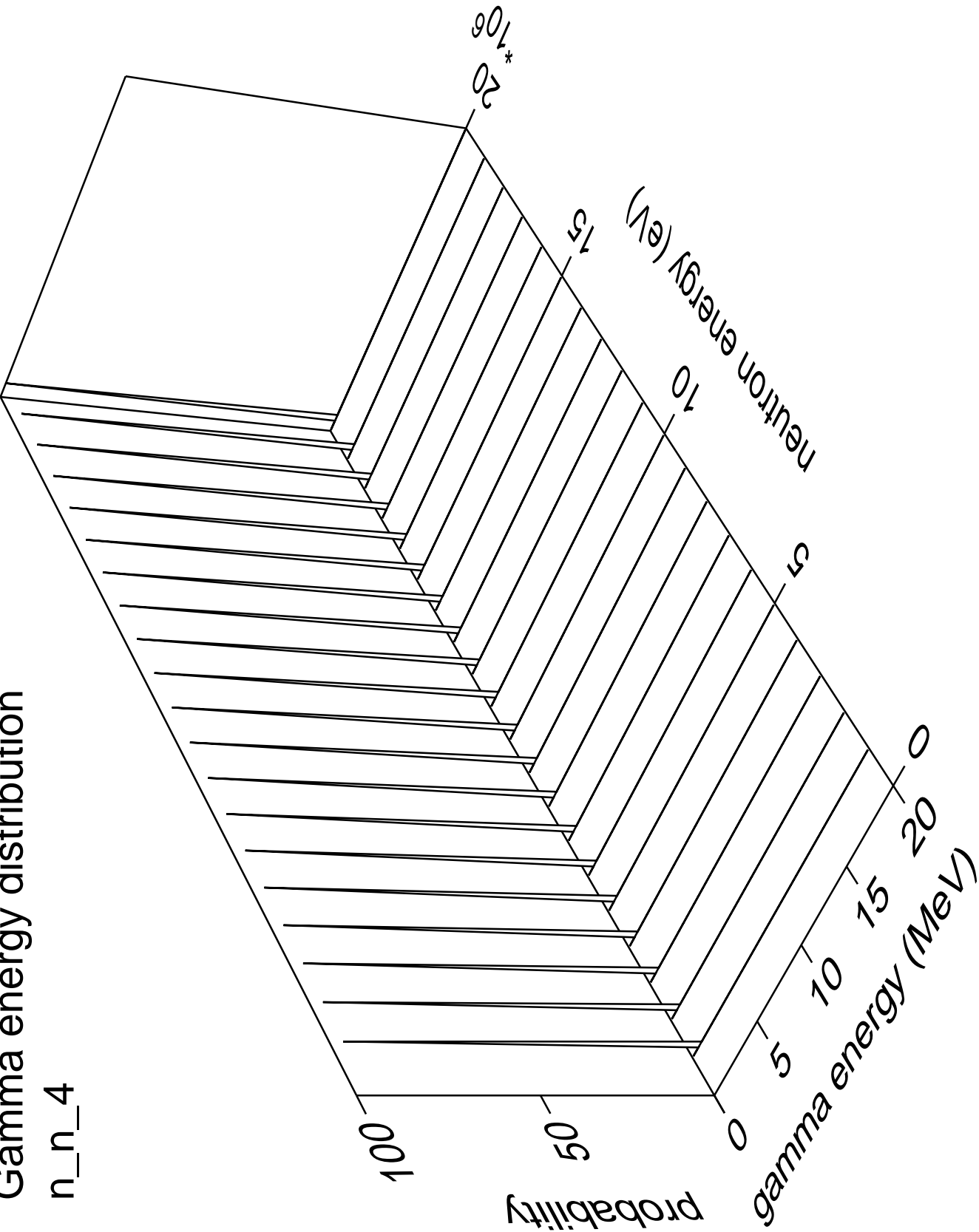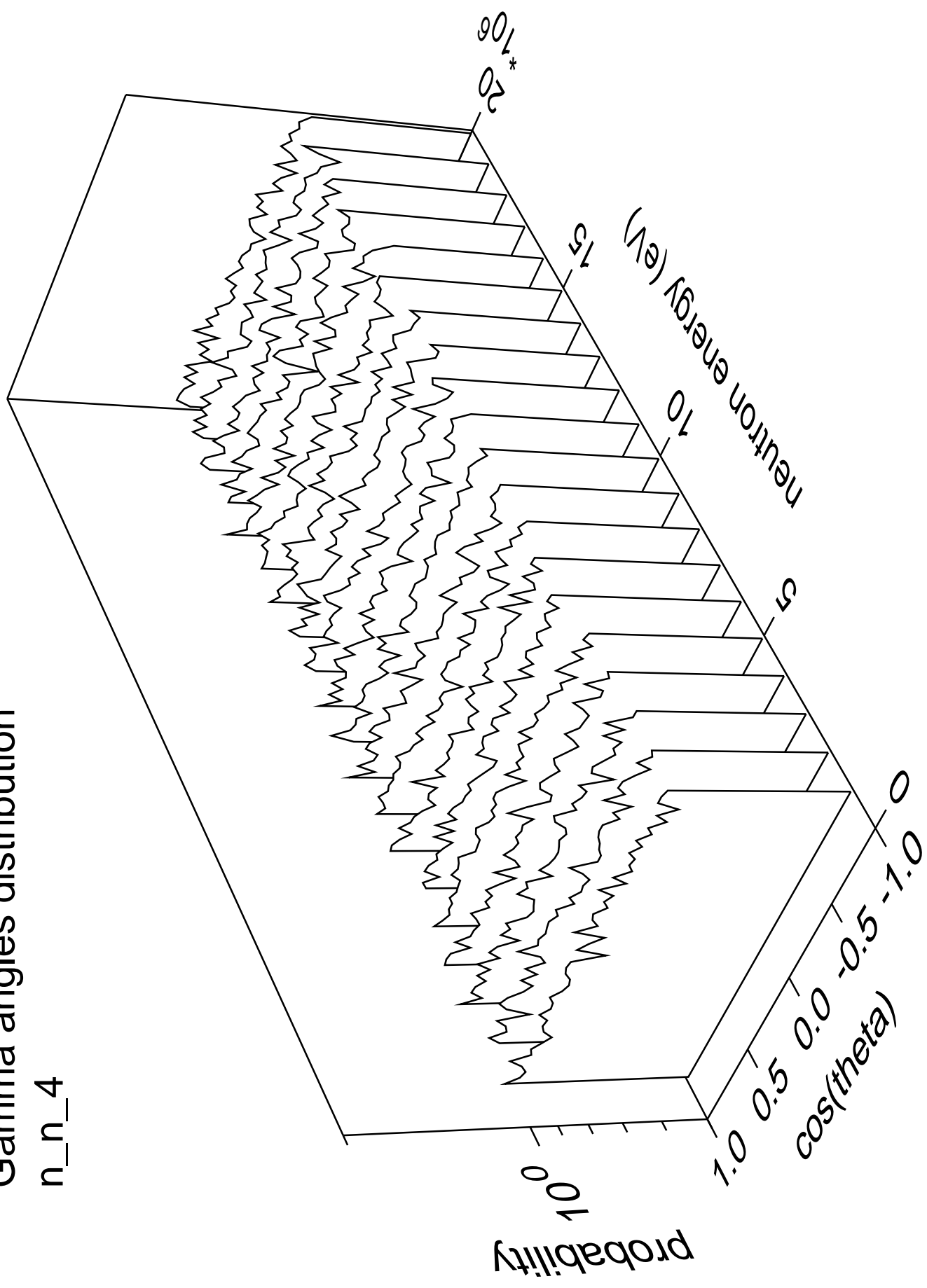
Gamma multiplicities distribution
n_n_4

Gamma energy distribution
n_n_5

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

0

5

10

15

20

0

50

100

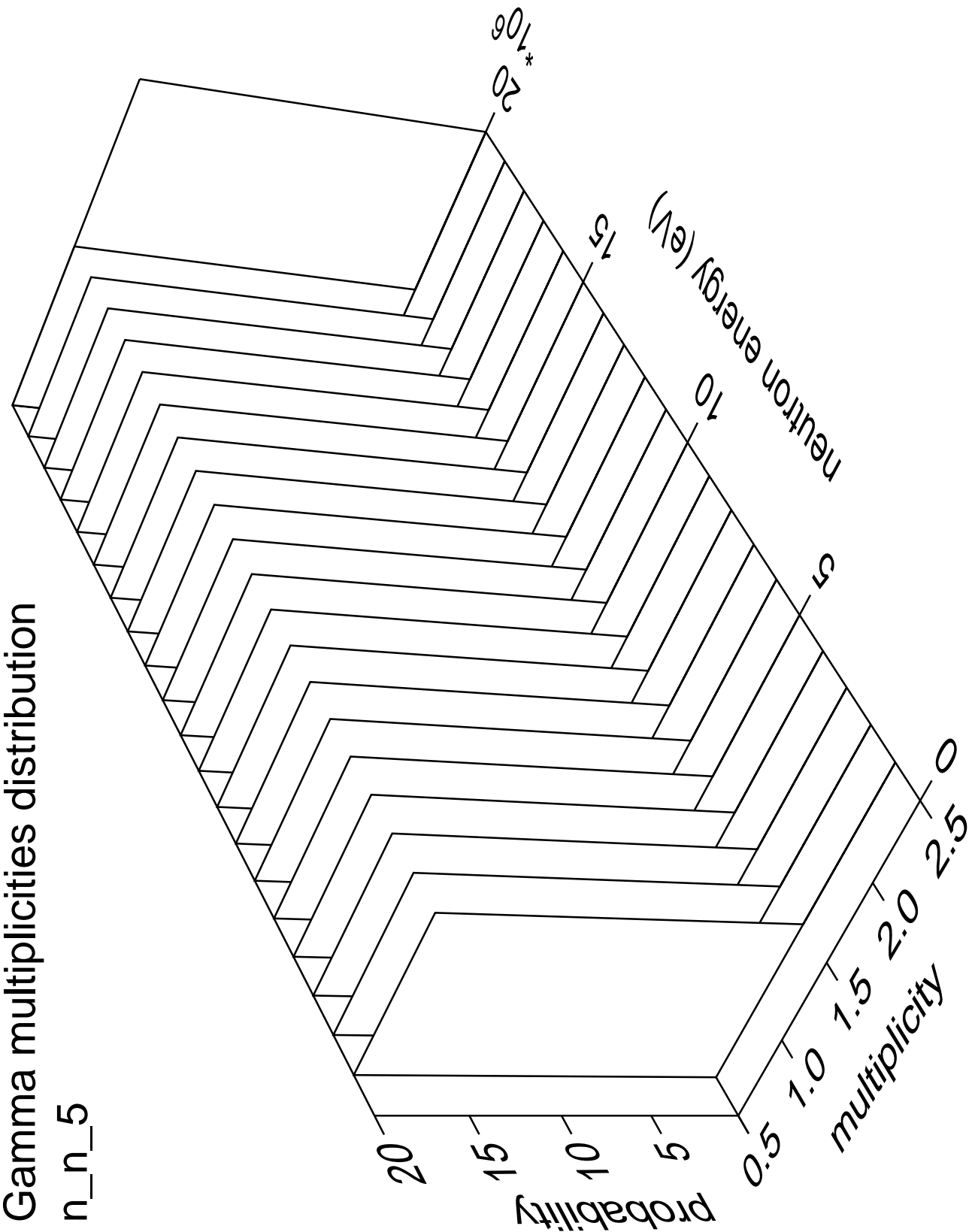Gamma angles distribution
n_n_5

probability

cos(theta)

neutron energy (eV)
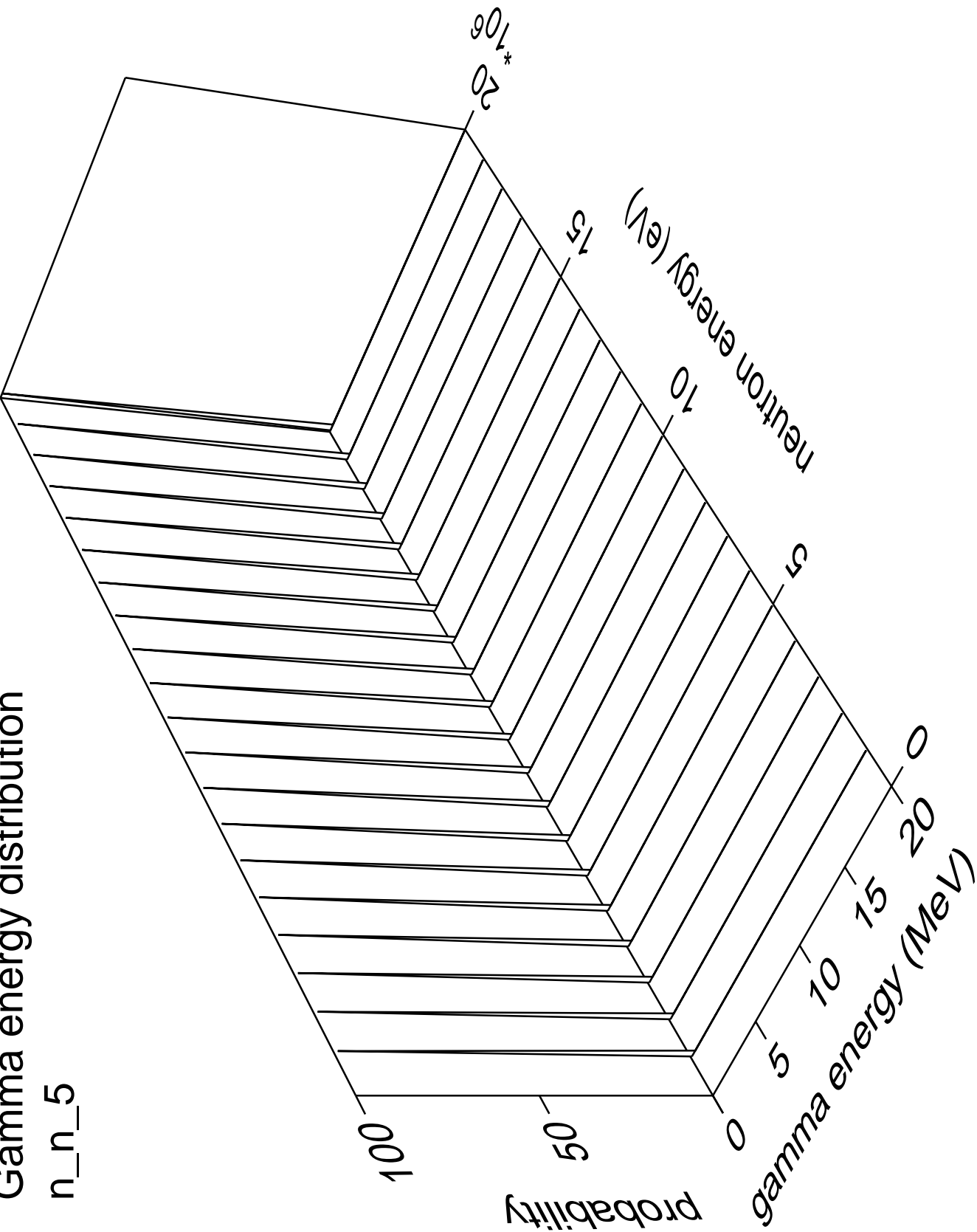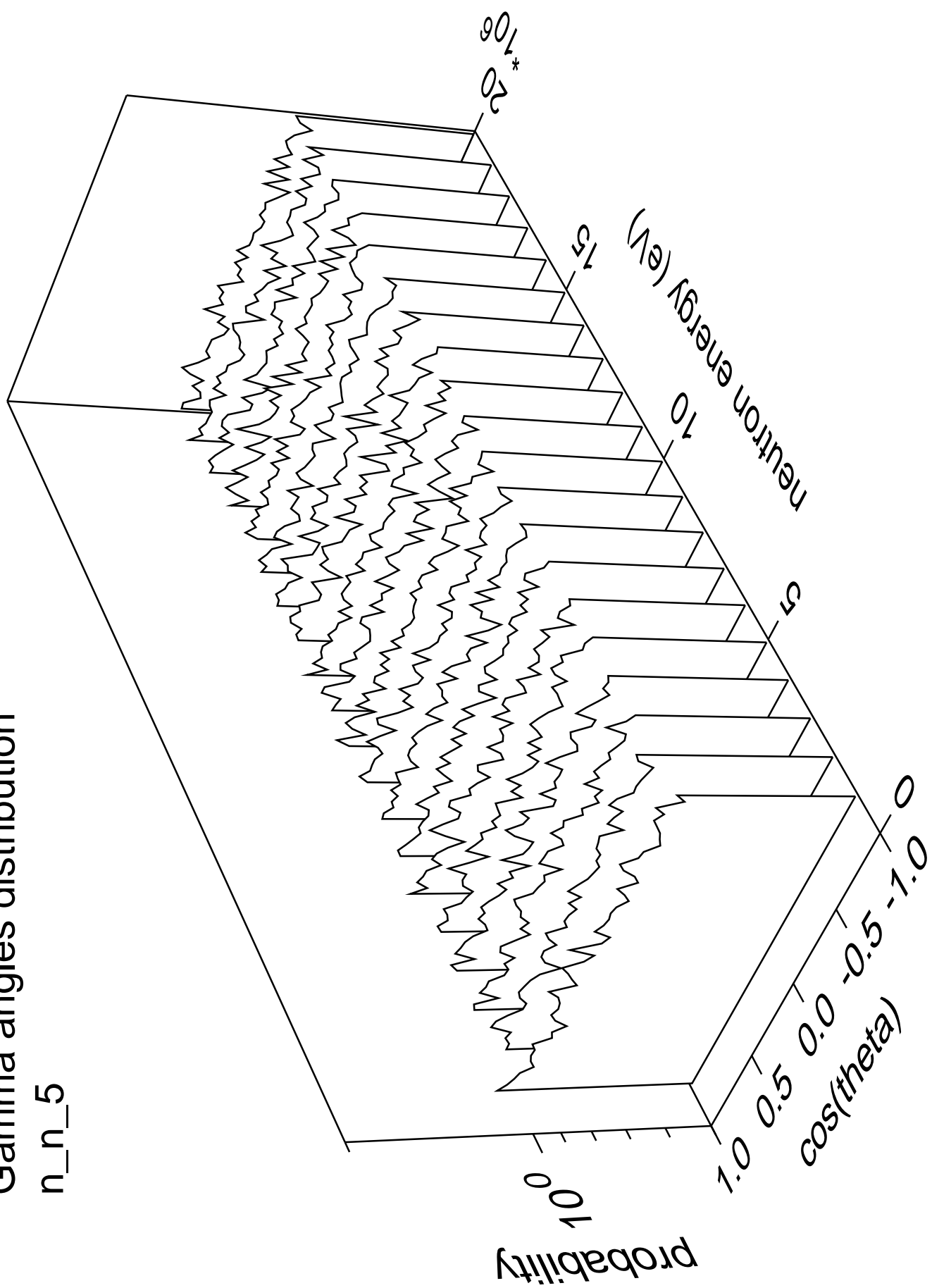
Gamma multiplicities distribution
n_n_5

Gamma energy distribution
n_n_6
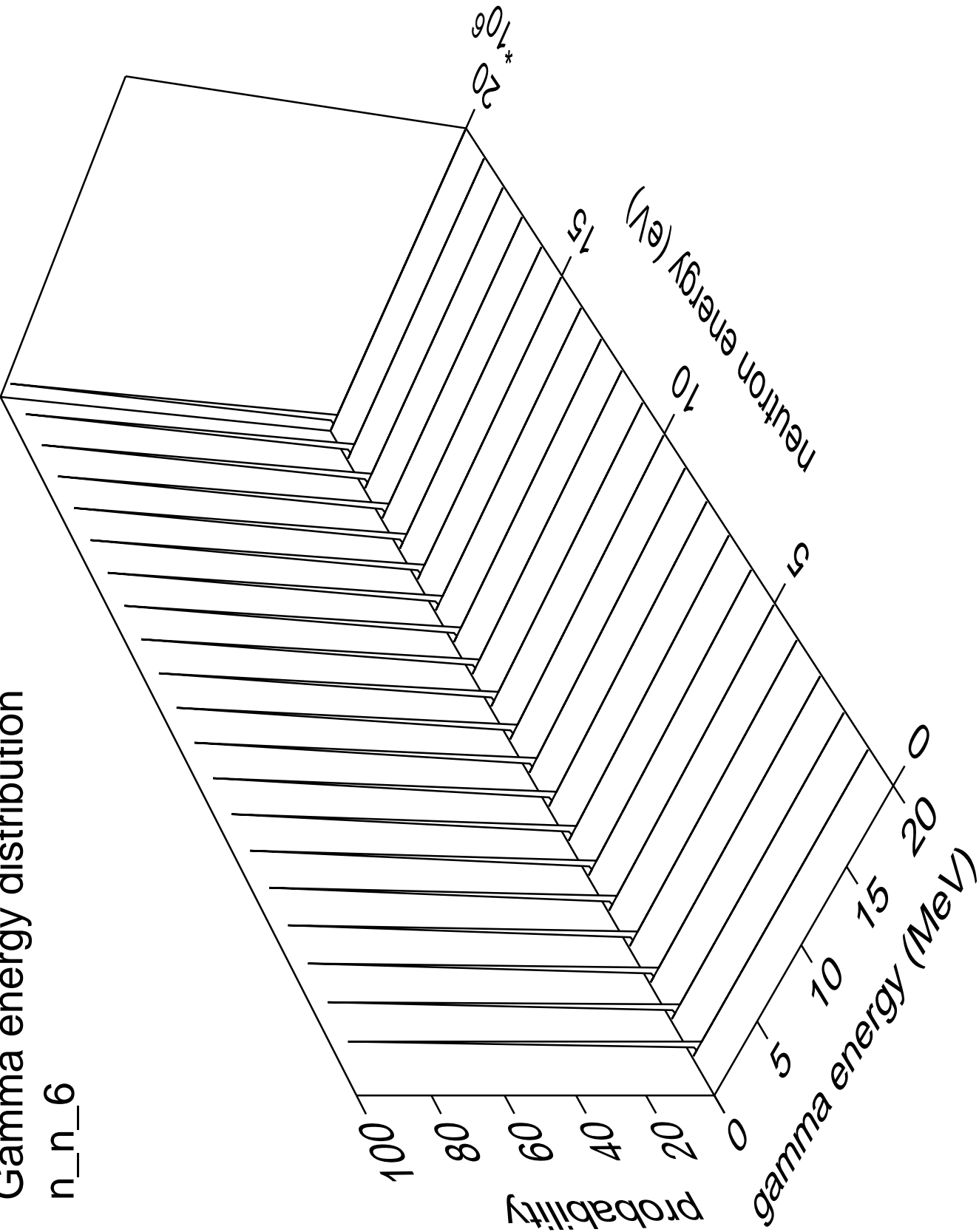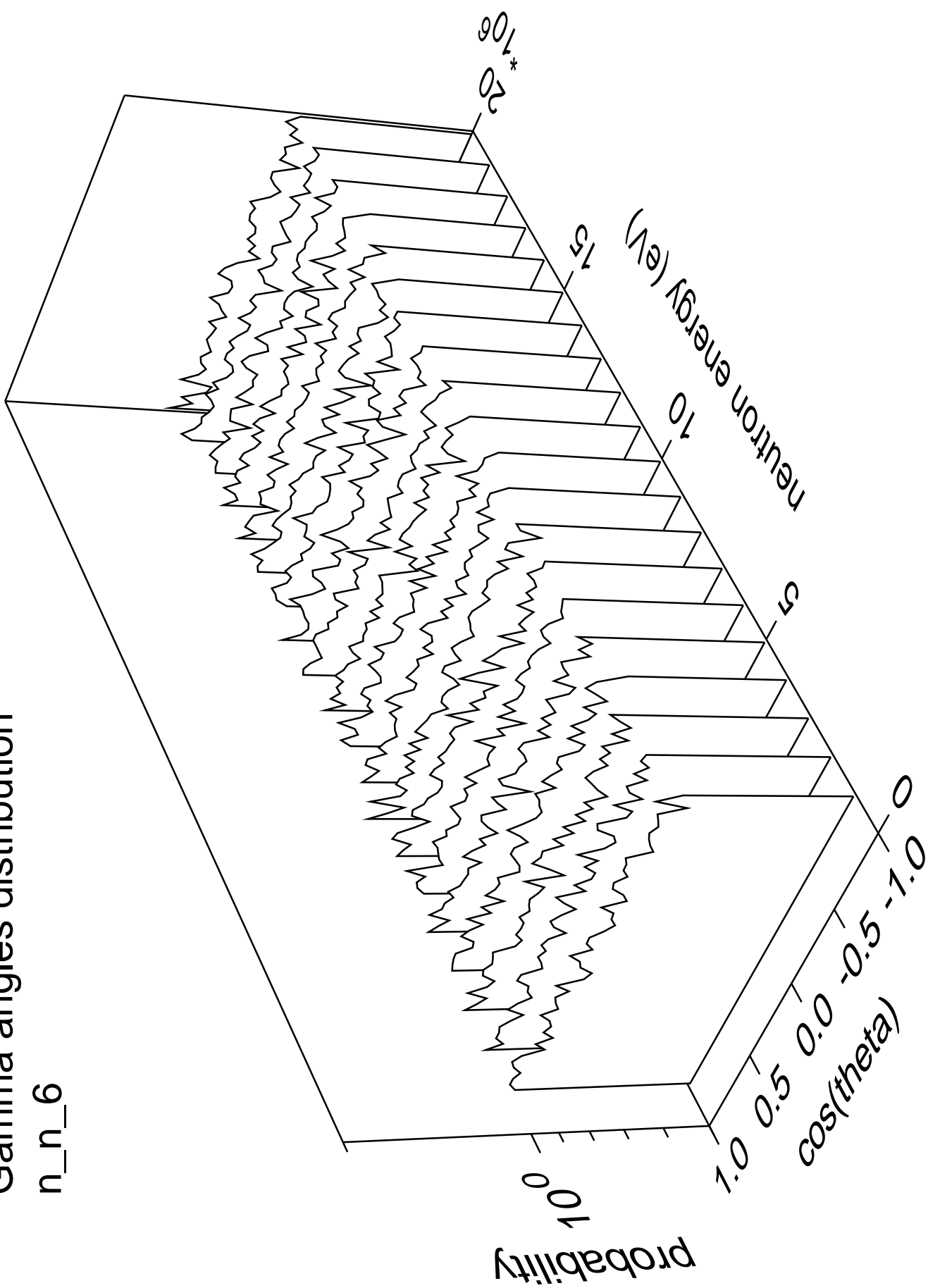
probability
100
80
60
40
20
0

gamma energy (MeV)
5 10 15 20

neutron energy (eV)
5 10 15 20 *10^6

Gamma angles distribution
n_n_6

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10⁰

Gamma multiplicities distribution
n_n_6

neutron energy (eV)

multiplicity

probability

Gamma energy distribution
n_n_7

neutron energy (eV)

*10⁶

gamma energy (MeV)

probability

Gamma angles distribution
n_n_7

probability

neutron energy (eV)

cos(theta)

20 *10^6

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10^0

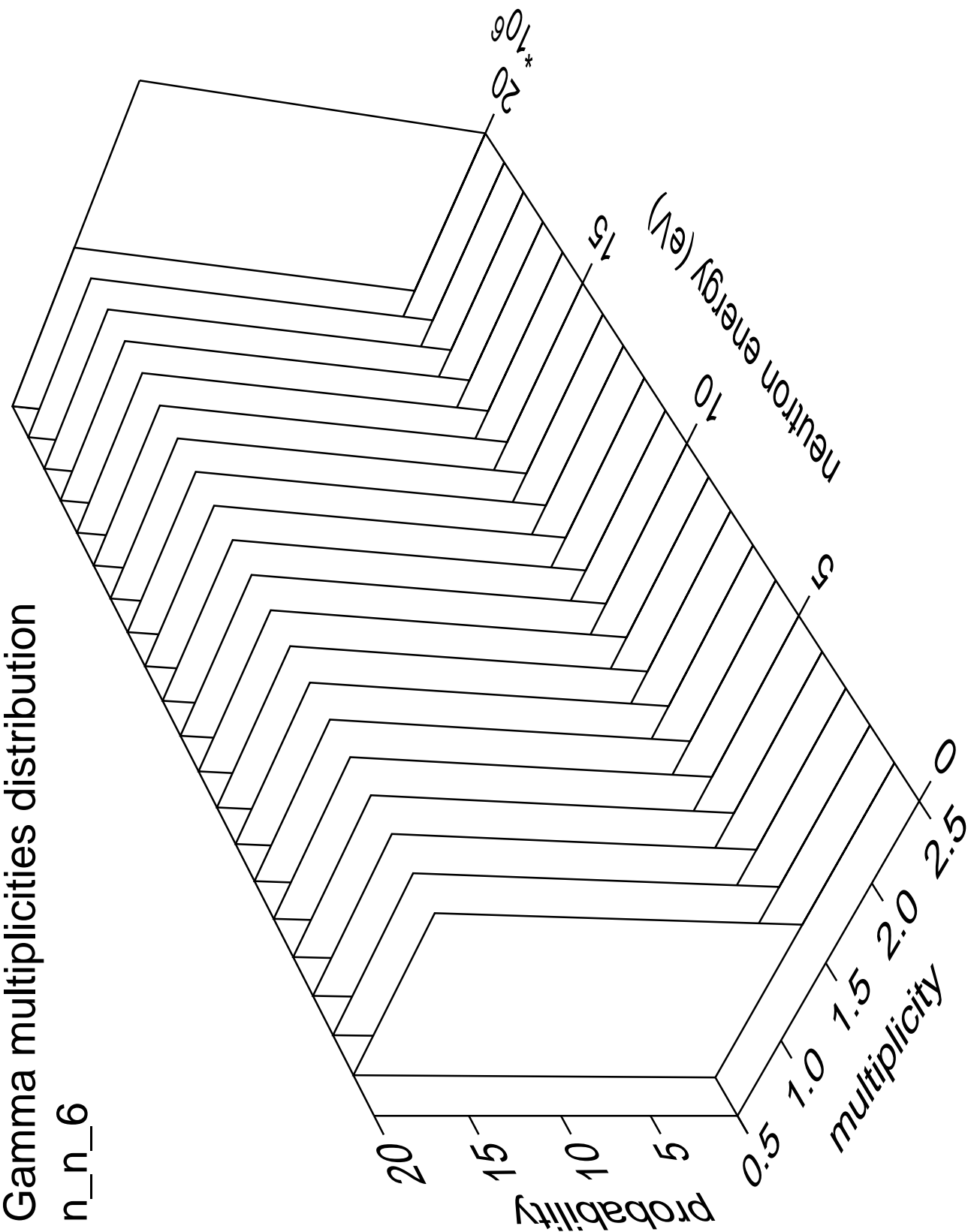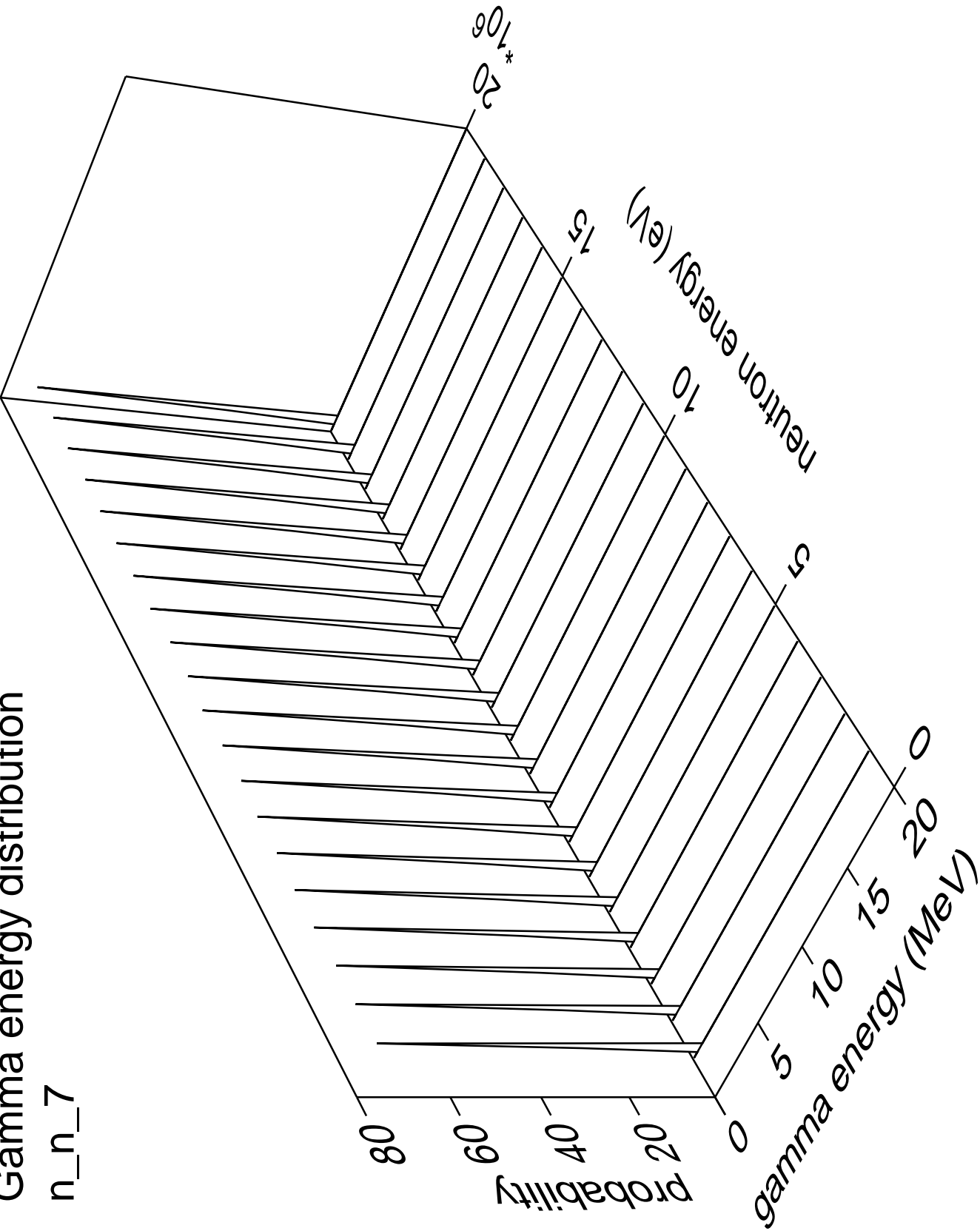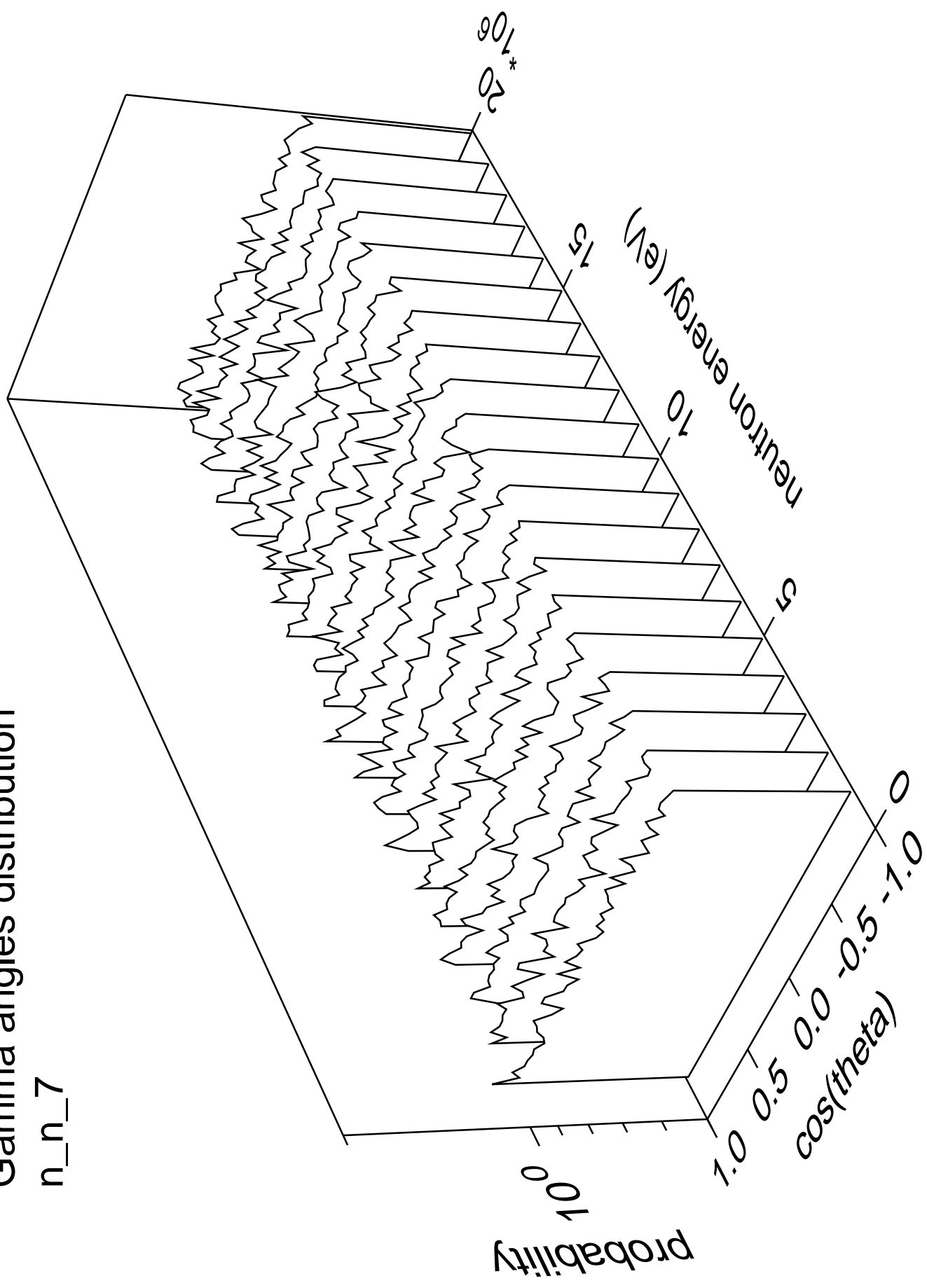Gamma multiplicities distribution
n_n_7

Gamma energy distribution
n_n_8

probability

100 80 60 40 20

gamma energy (MeV)

0 5 10 15 20

neutron energy (eV)

20 *10⁶ 15 10 5 0

Gamma angles distribution
n_n_8

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0

10⁰
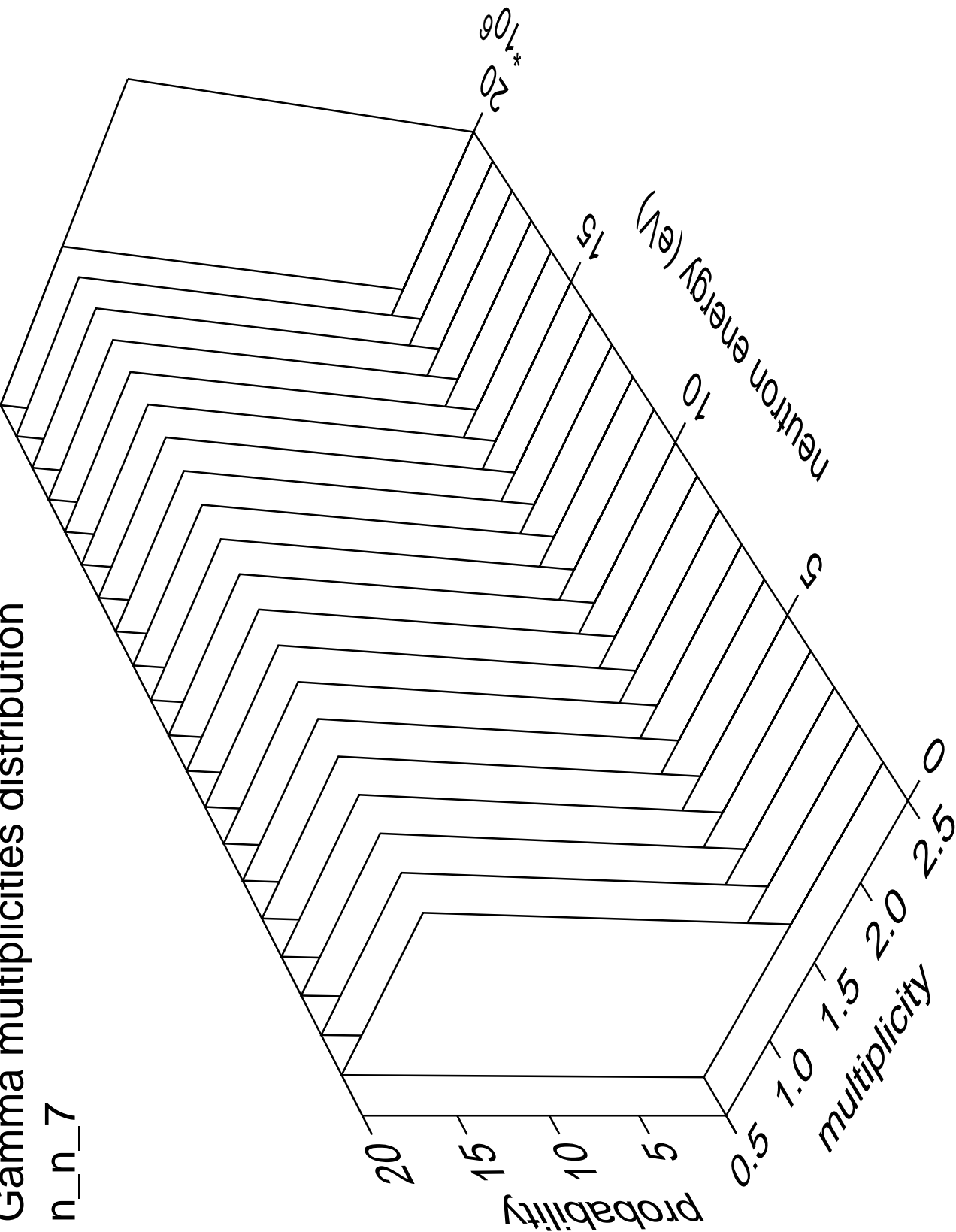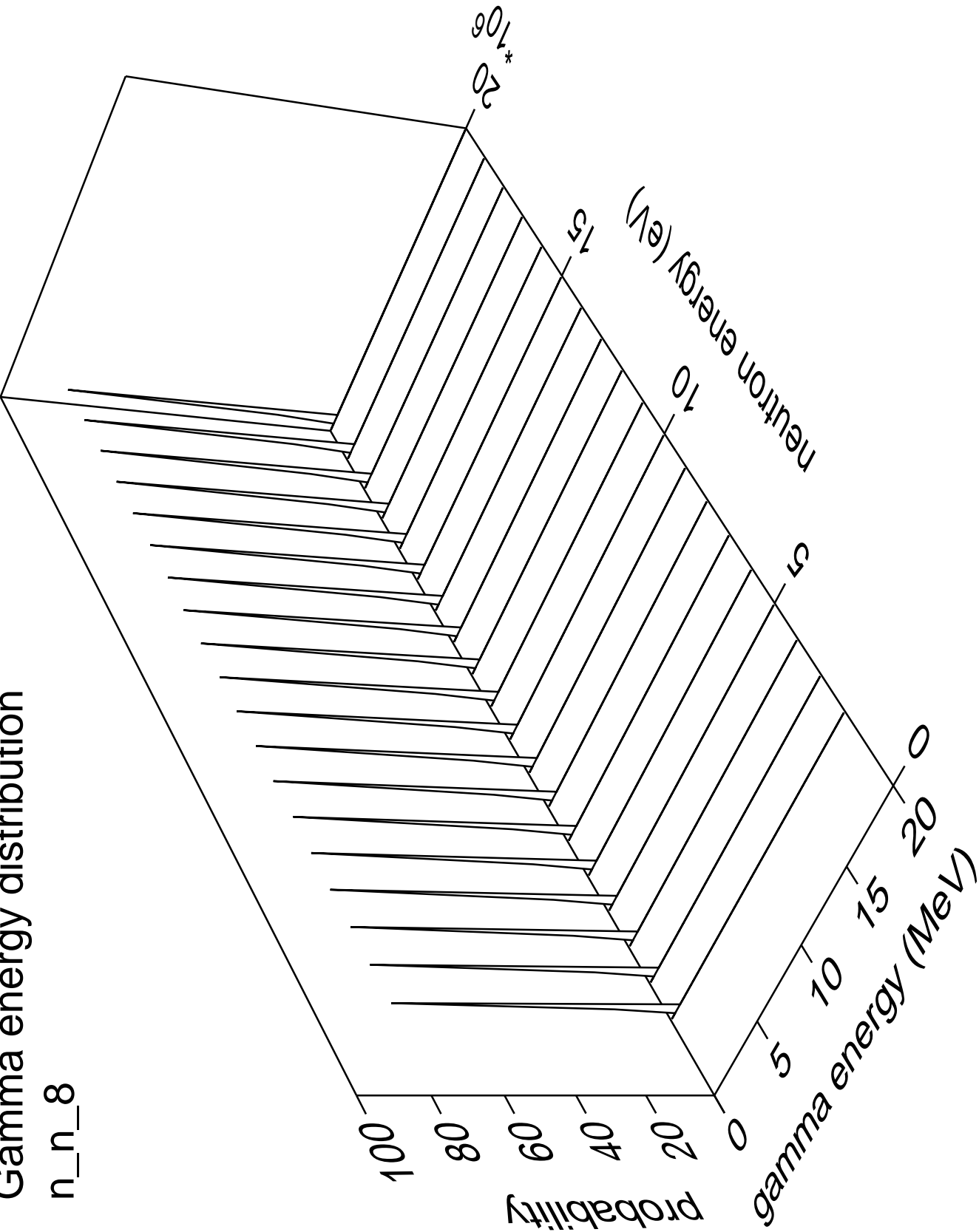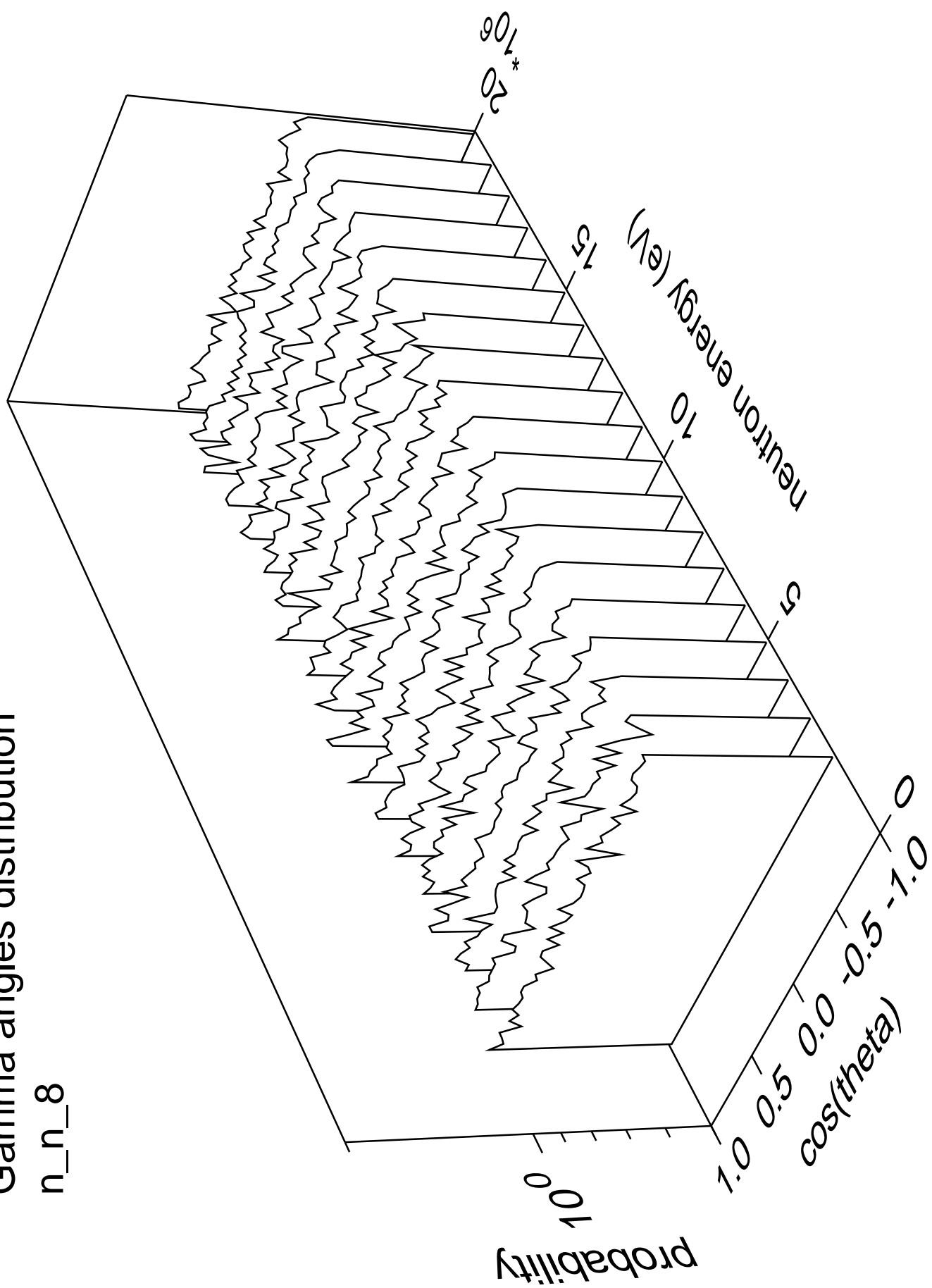
Gamma multiplicities distribution
n_n_8

Gamma energy distribution
n_n_9

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

0

5

10

15

20

0

20

40

60

80

Gamma angles distribution
n_n_9

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0
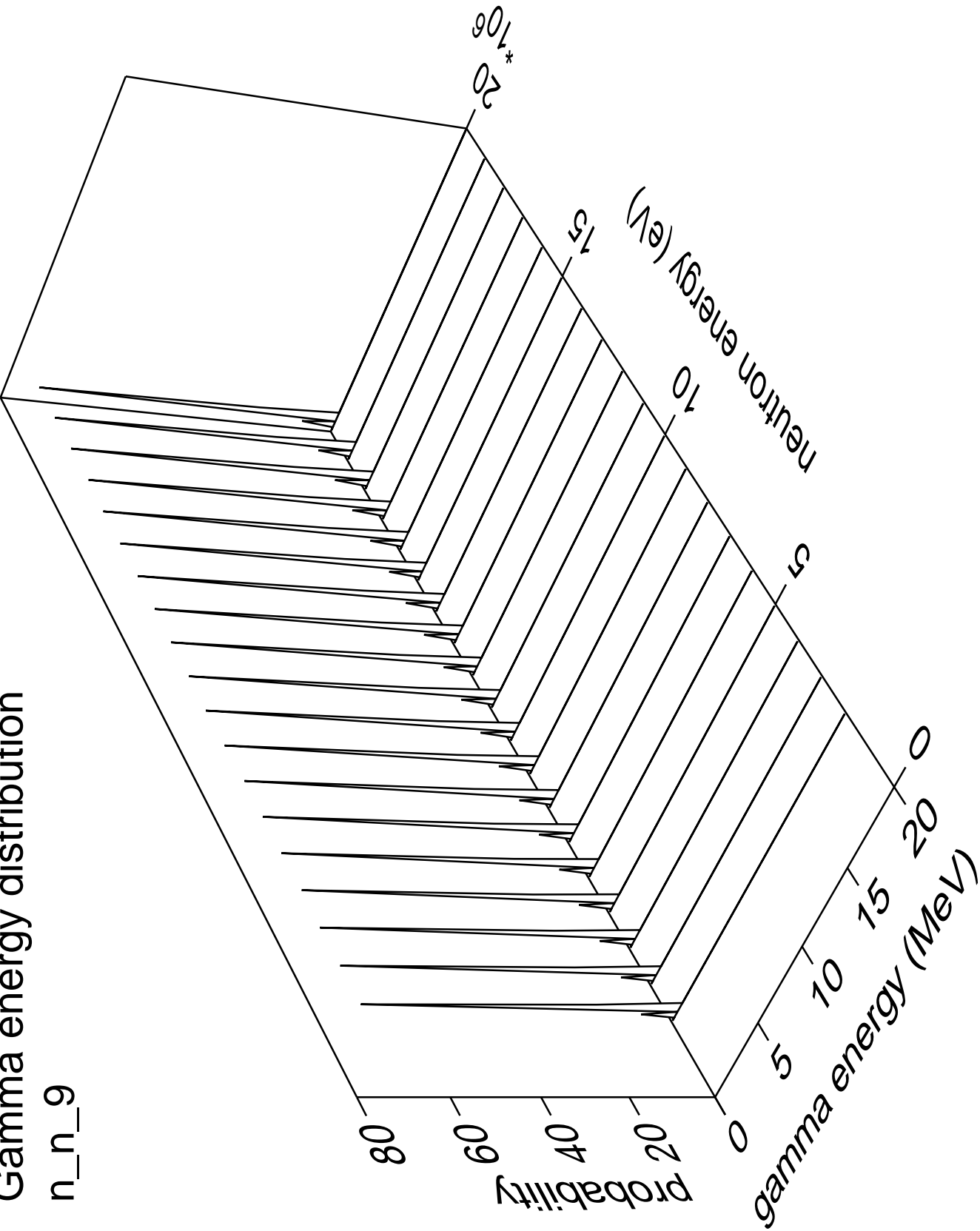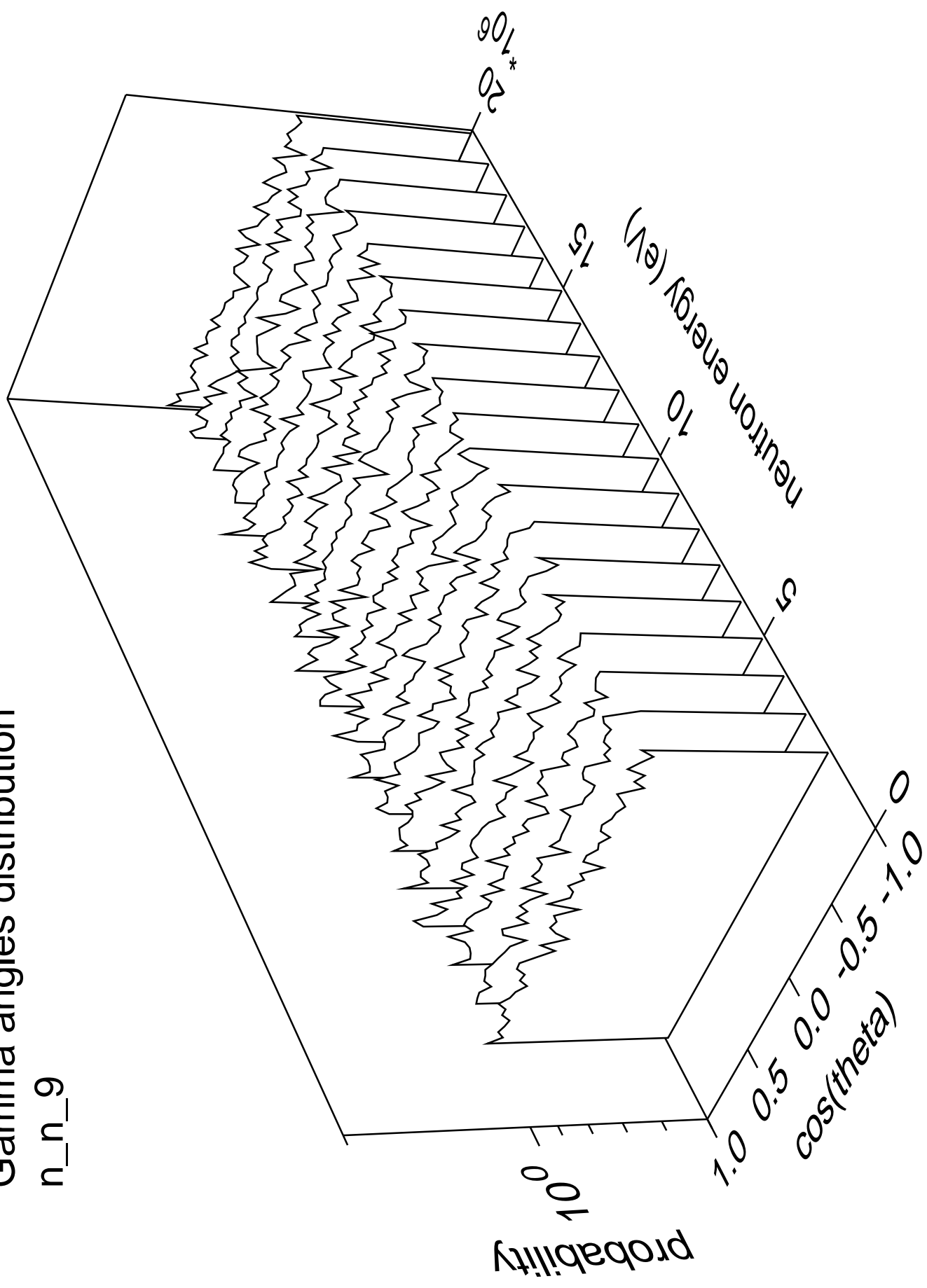
Gamma multiplicities distribution
n_n_9

Gamma energy distribution
n_n_10

probability

neutron energy (eV)

gamma energy (MeV)

20 *10^6

15

10

5

60

40

20

0

5

10

15

20

Gamma angles distribution
n_n_10

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

0

1.0 0.5 0.0 -0.5 -1.0
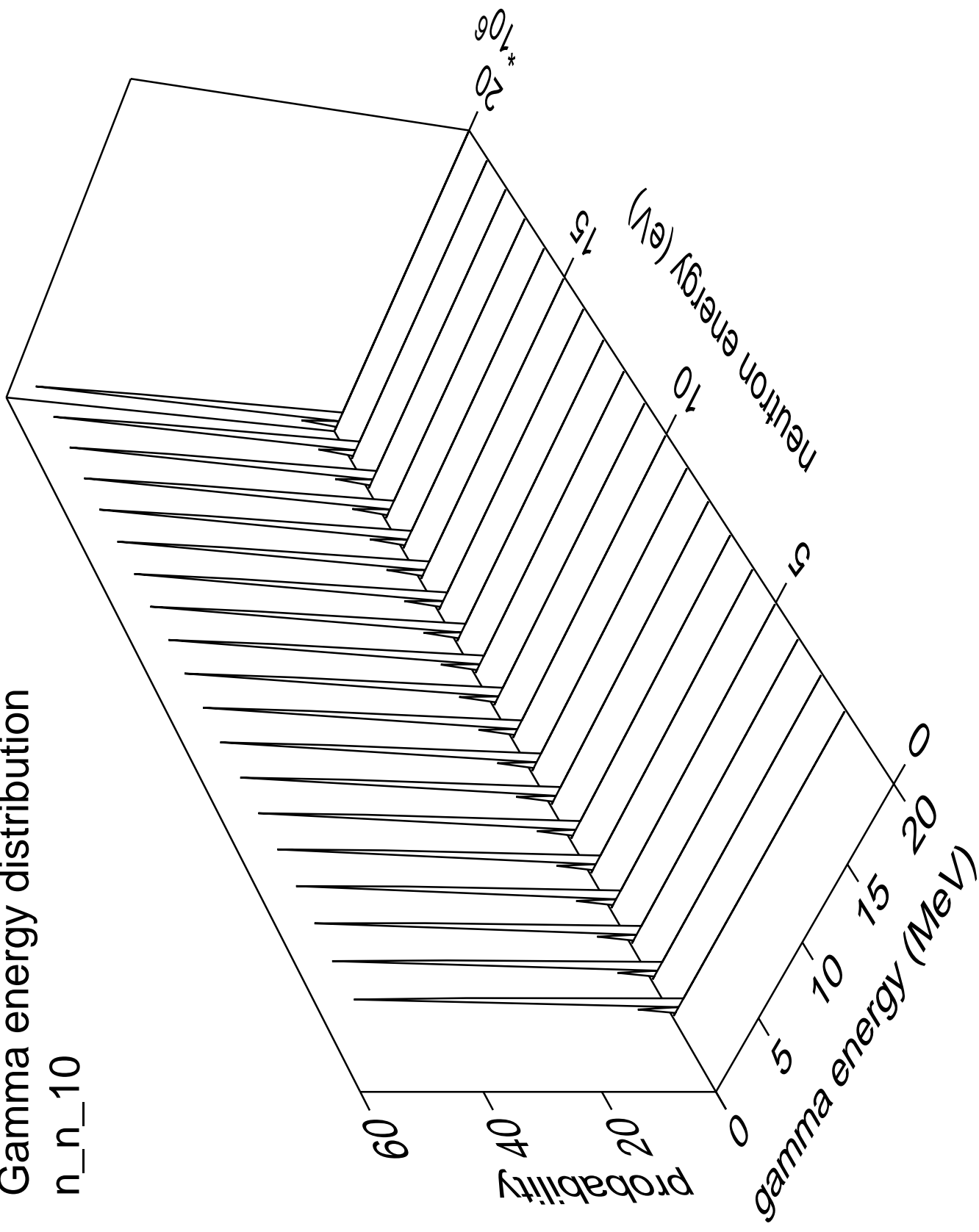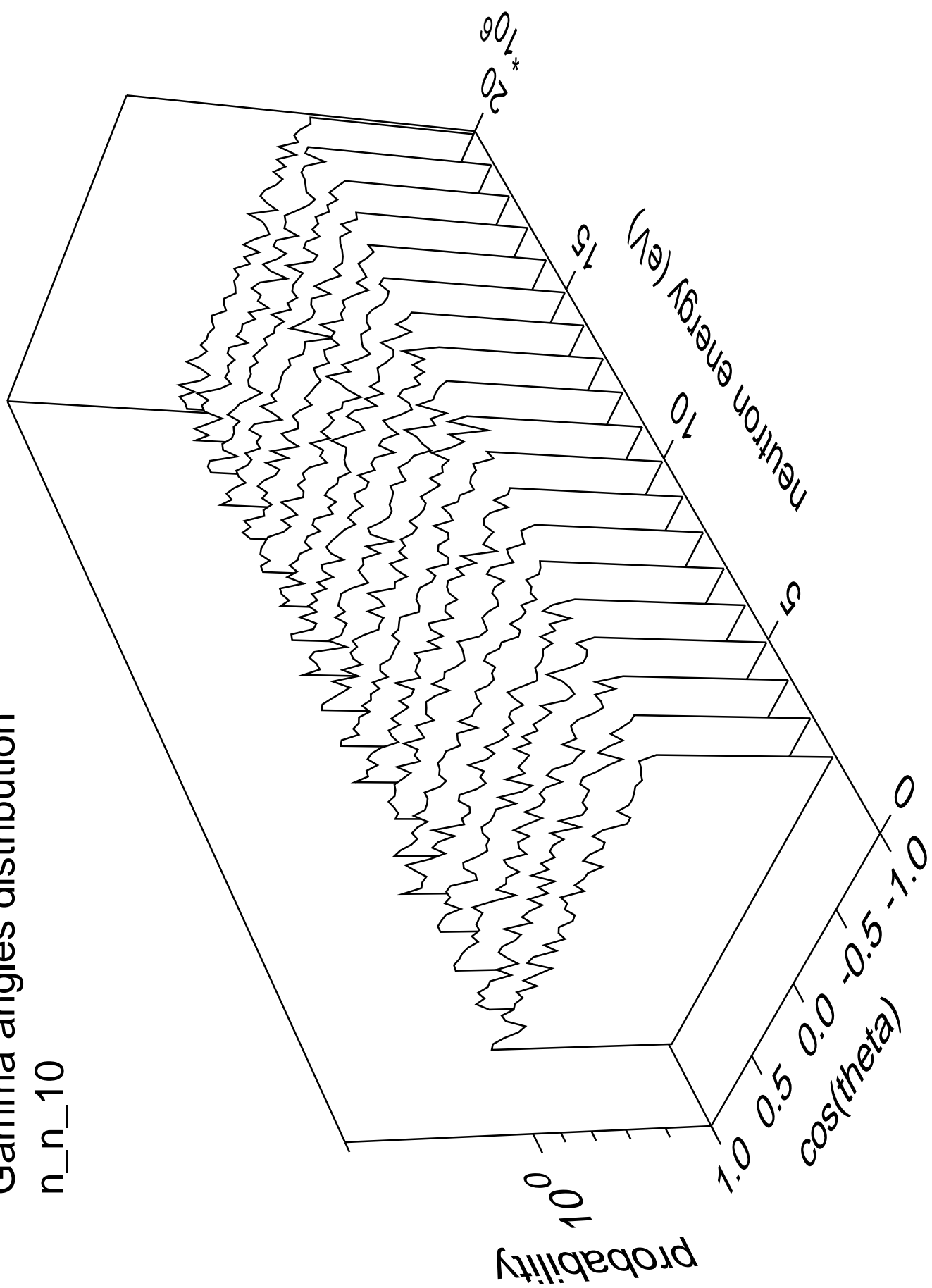
Gamma multiplicities distribution
n_n_10

Gamma energy distribution
n_n_11

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

Gamma angles distribution
n_n_11

probability

10⁰

20 *10⁶

15

10

5

0

neutron energy (eV)

1.0 0.5 0.0 -0.5 -1.0

cos(theta)
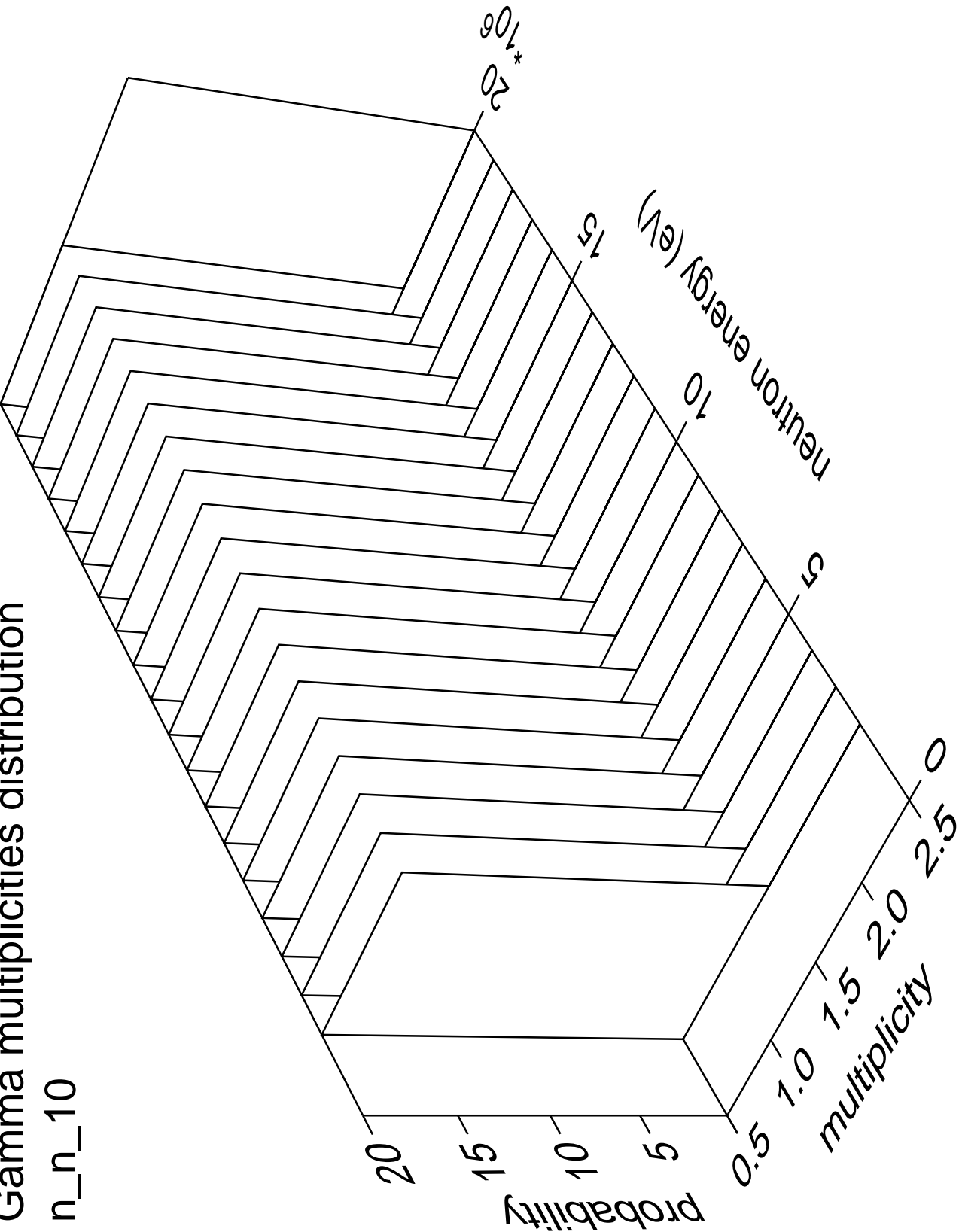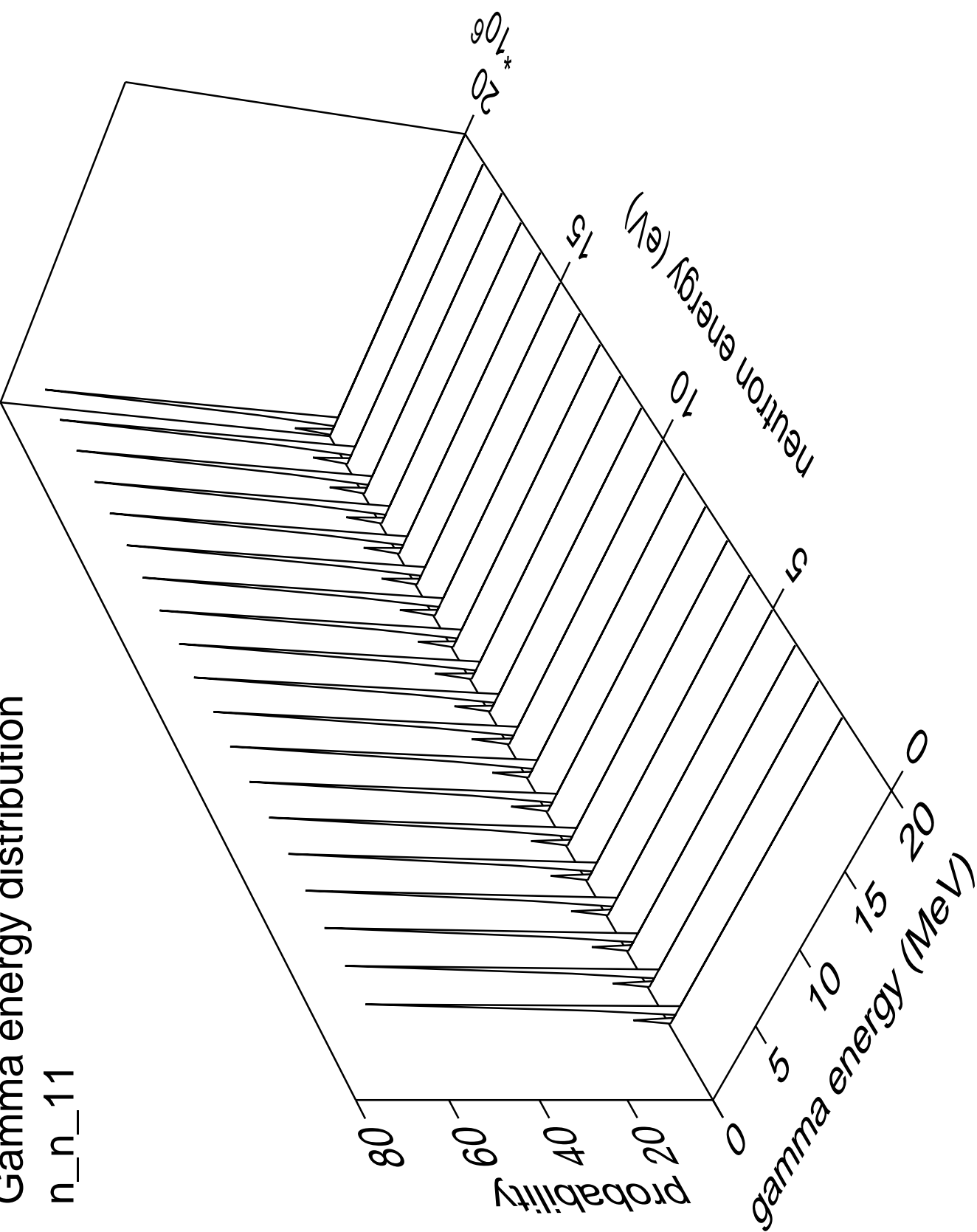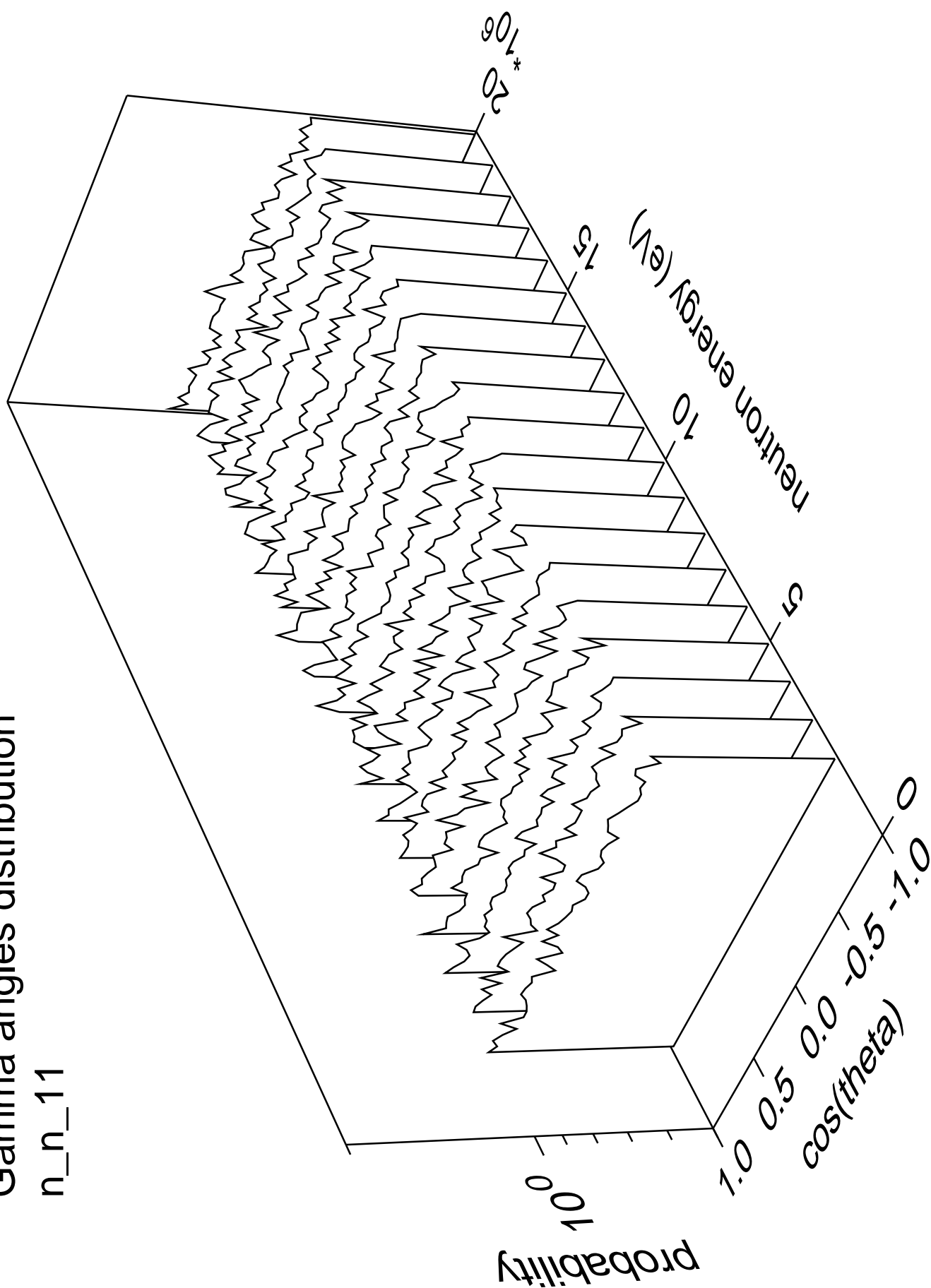
Gamma multiplicities distribution
n_n_11

Gamma energy distribution
n_n_12

probability

neutron energy (eV)

gamma energy (MeV)

*10⁶

Gamma angles distribution
n_n_12

neutron energy (eV)

cos(theta)

probability
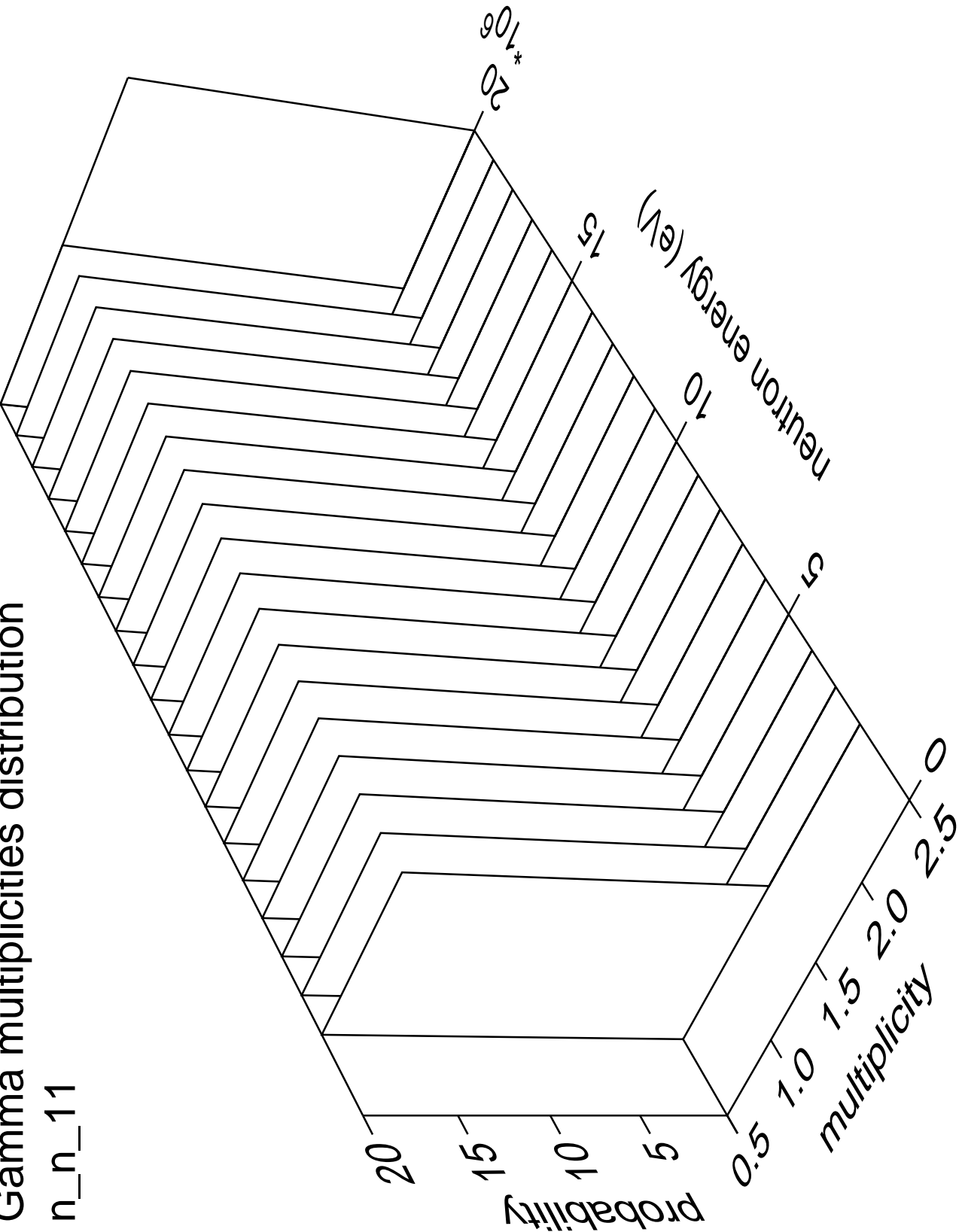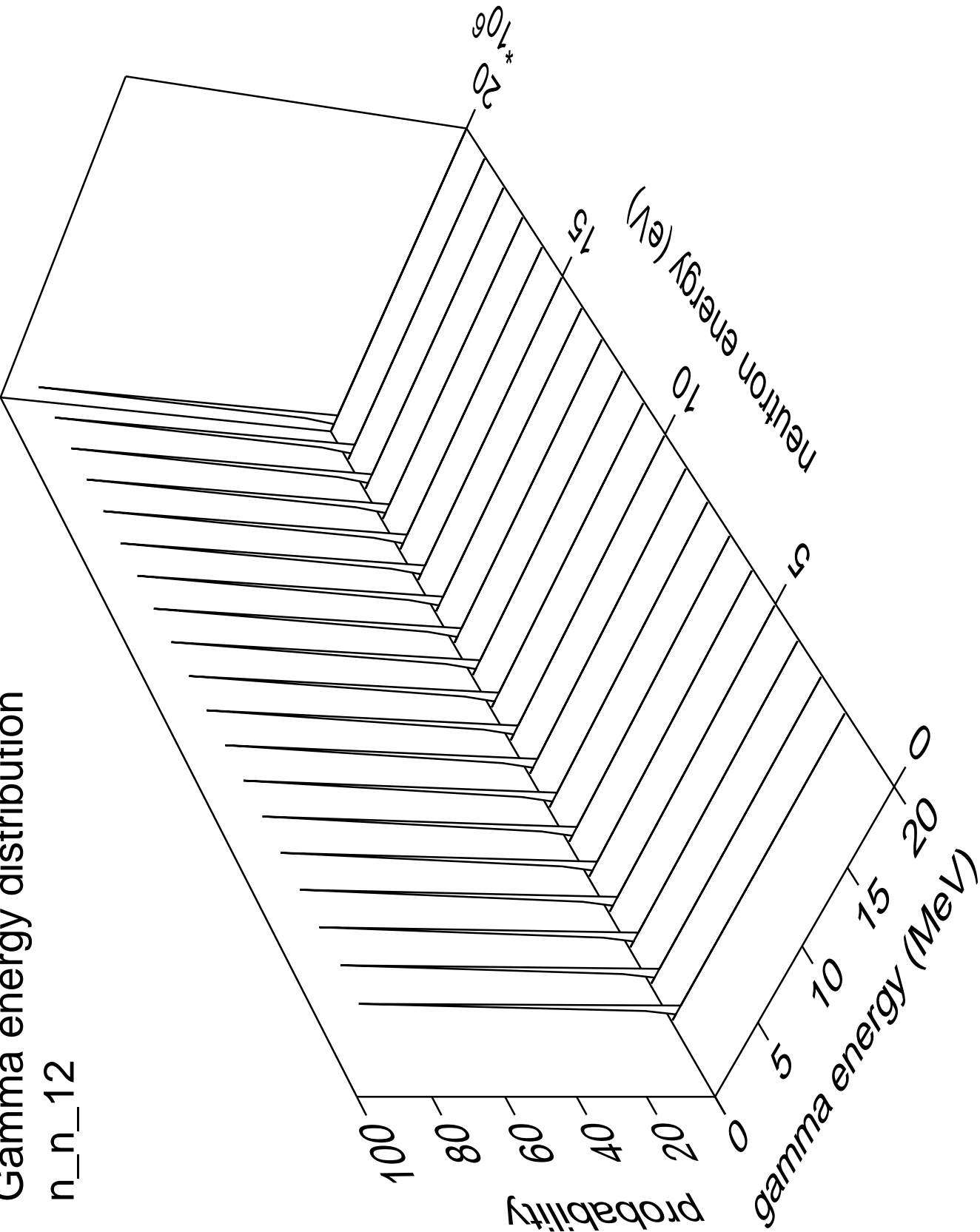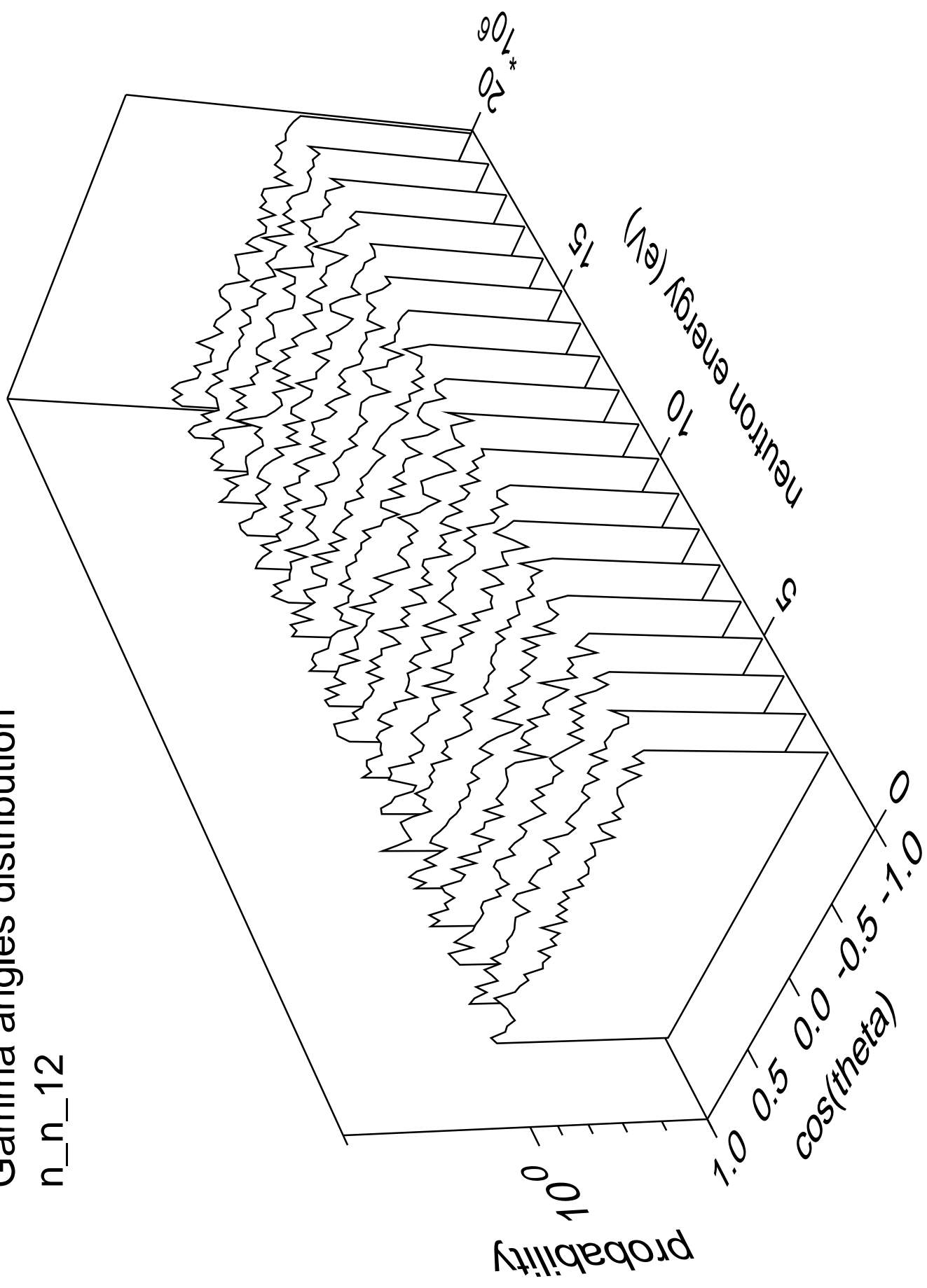
Gamma multiplicities distribution
n_n_12

Gamma energy distribution
n_n_13

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

0

20

15

10

5

0

100

80

60

40

20

0

Gamma angles distribution
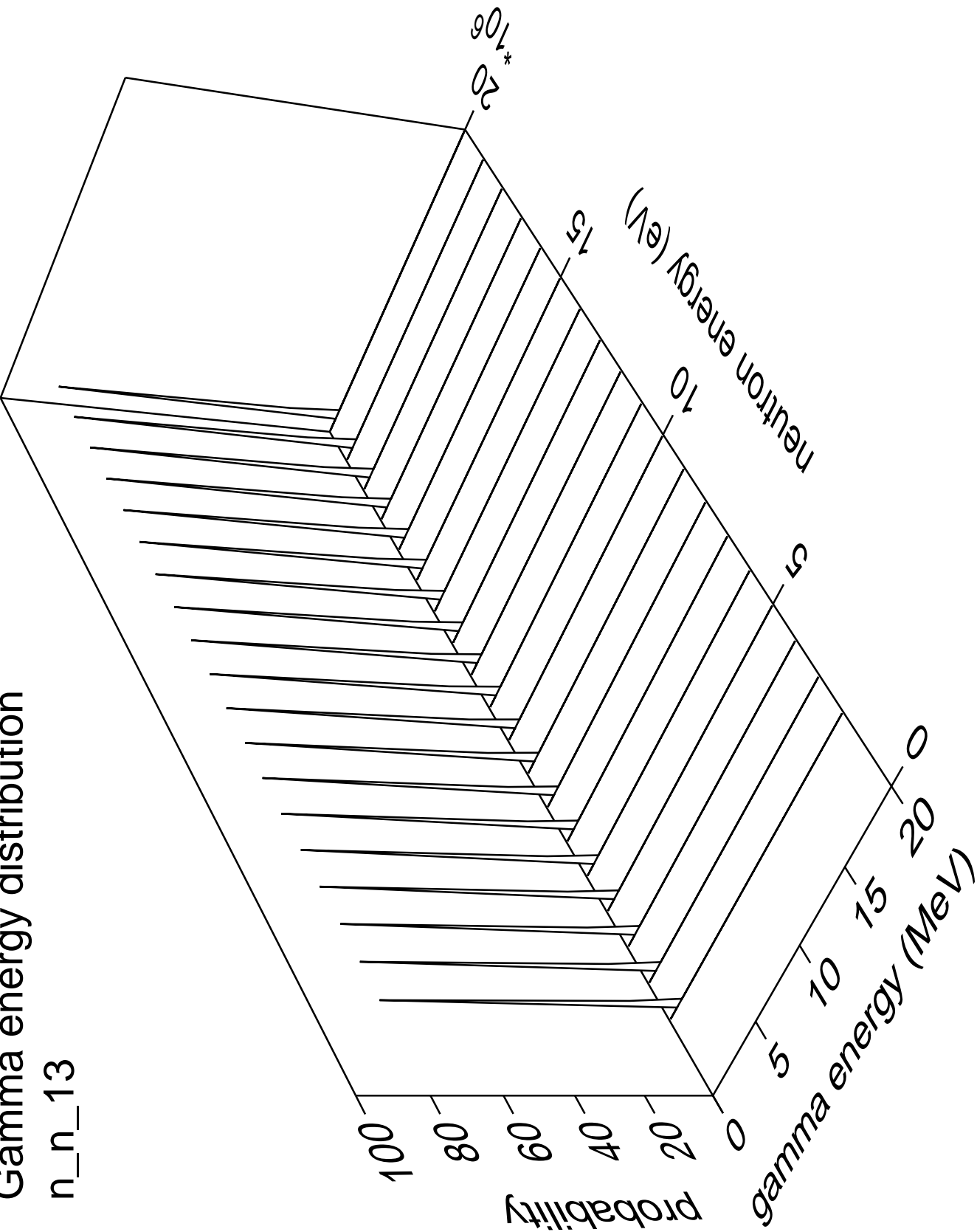n_n_13

probability

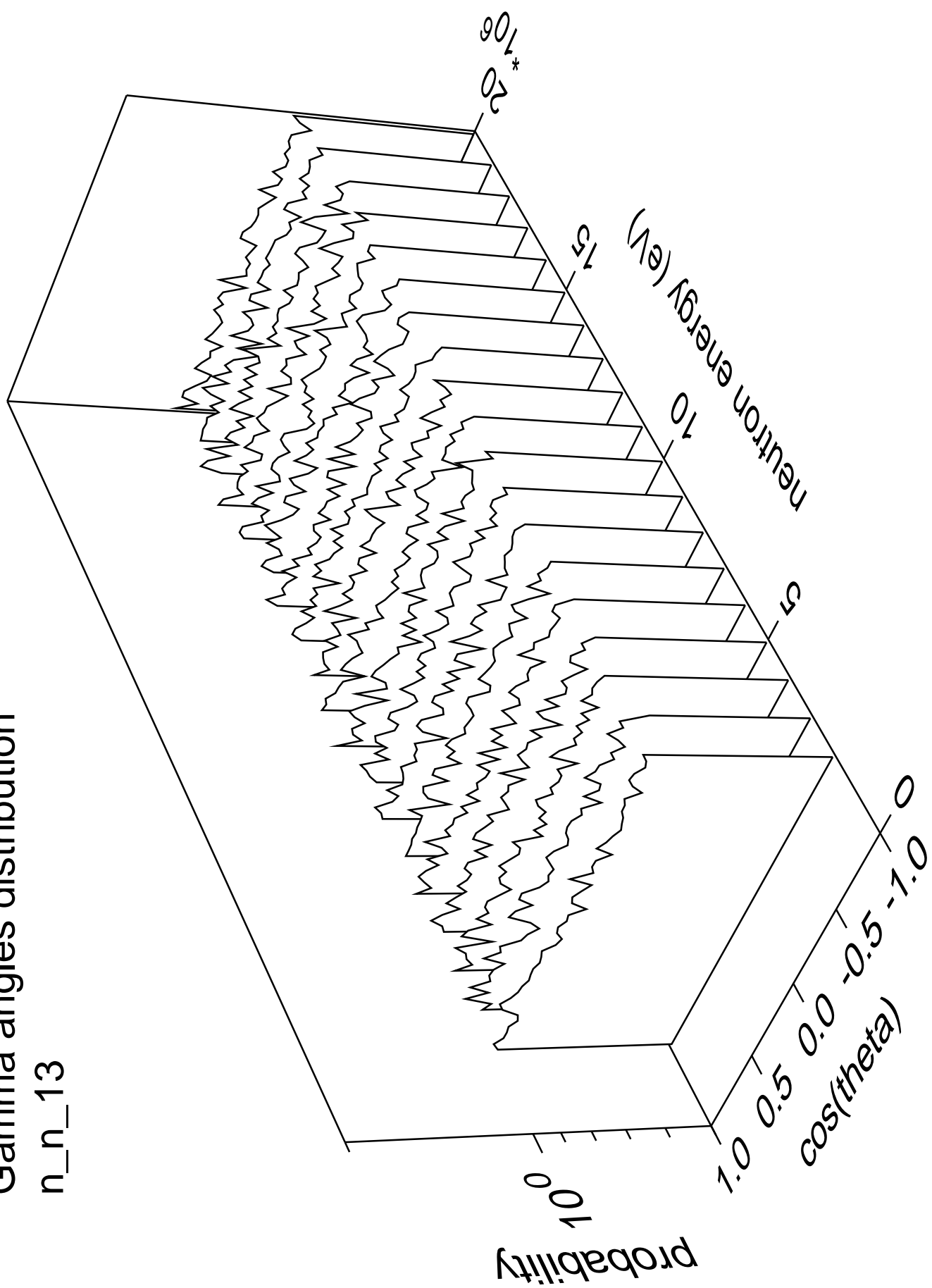neutron energy (eV)

cos(theta)
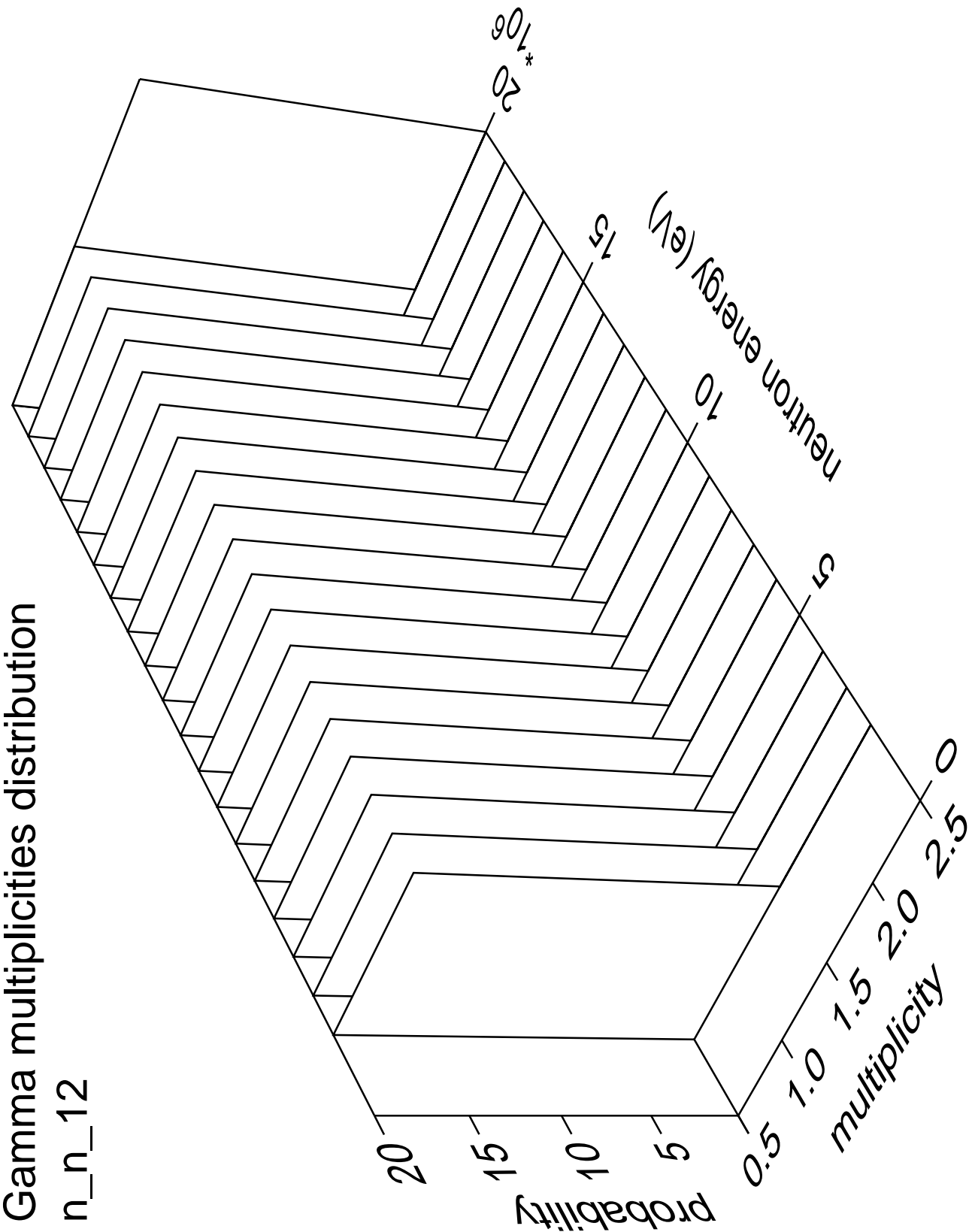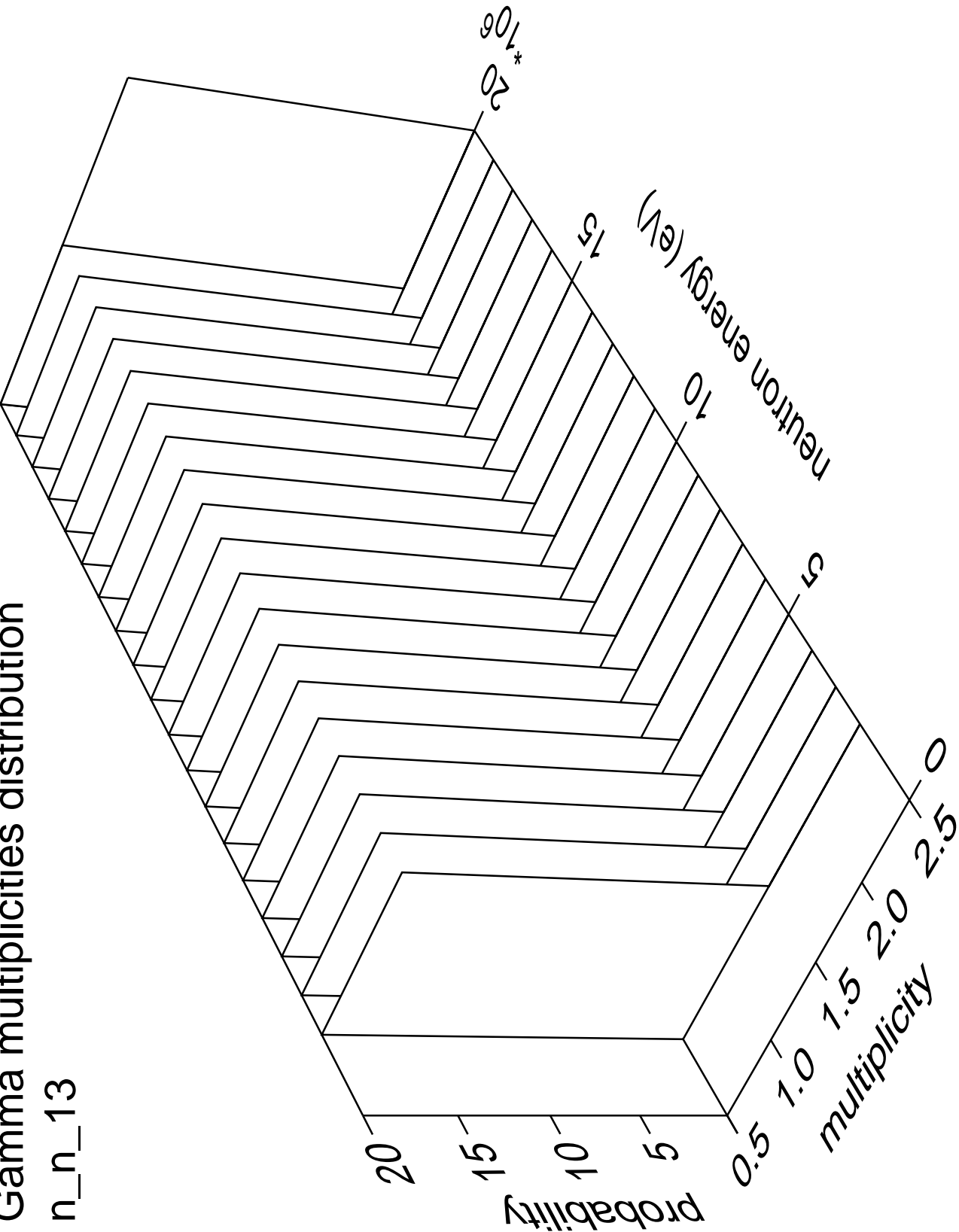
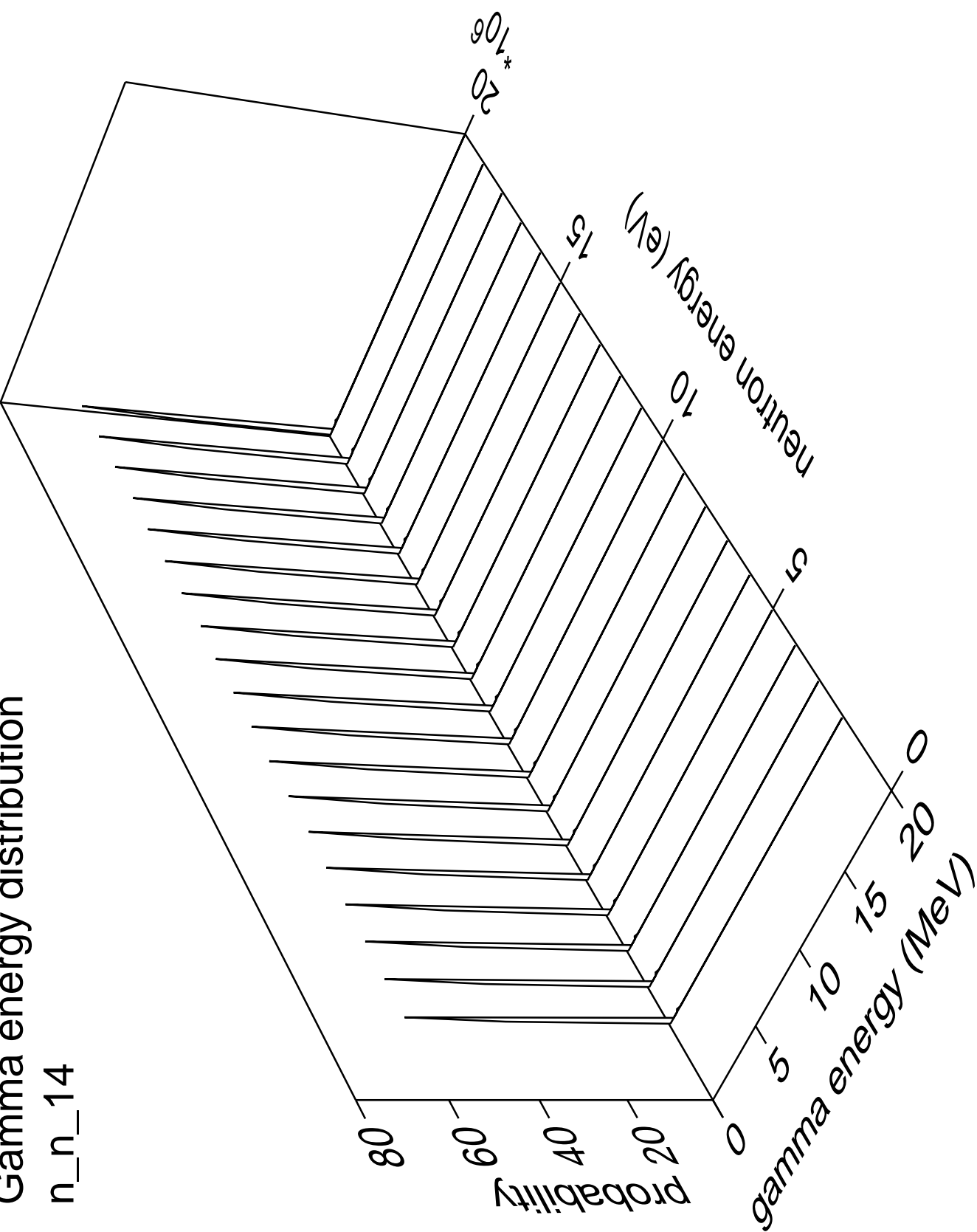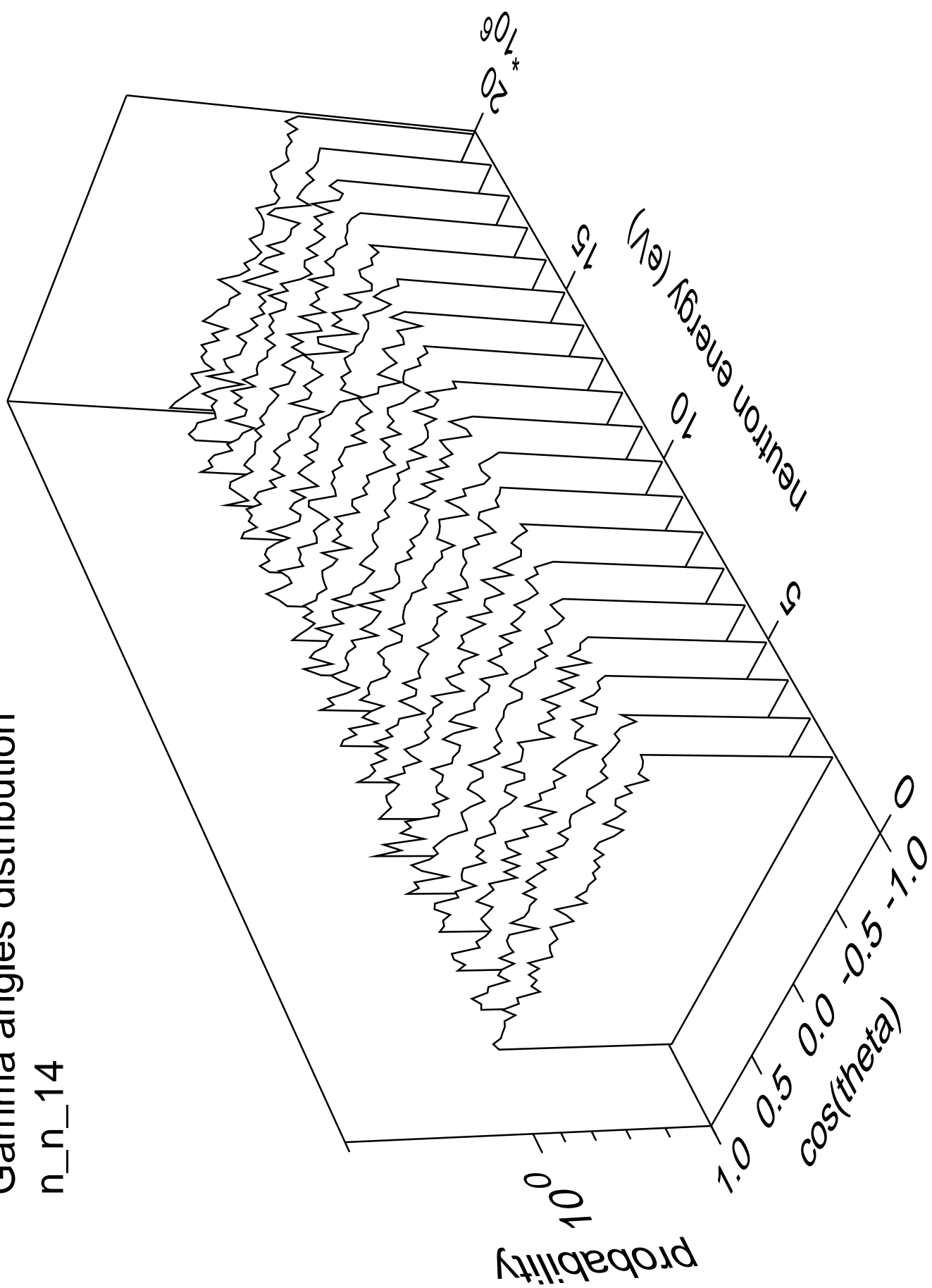Gamma multiplicities distribution
n_n_13

Gamma energy distribution
n_n_14
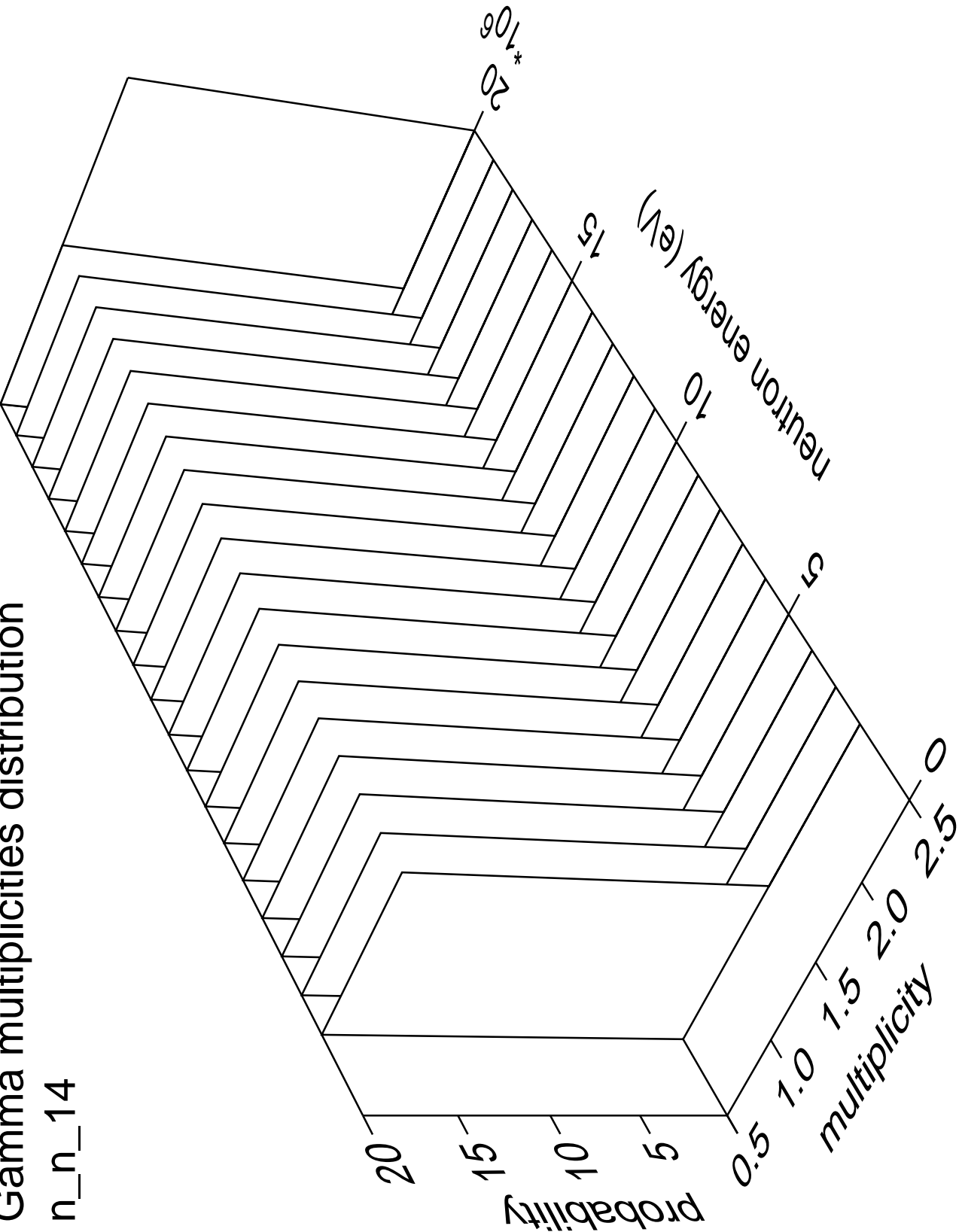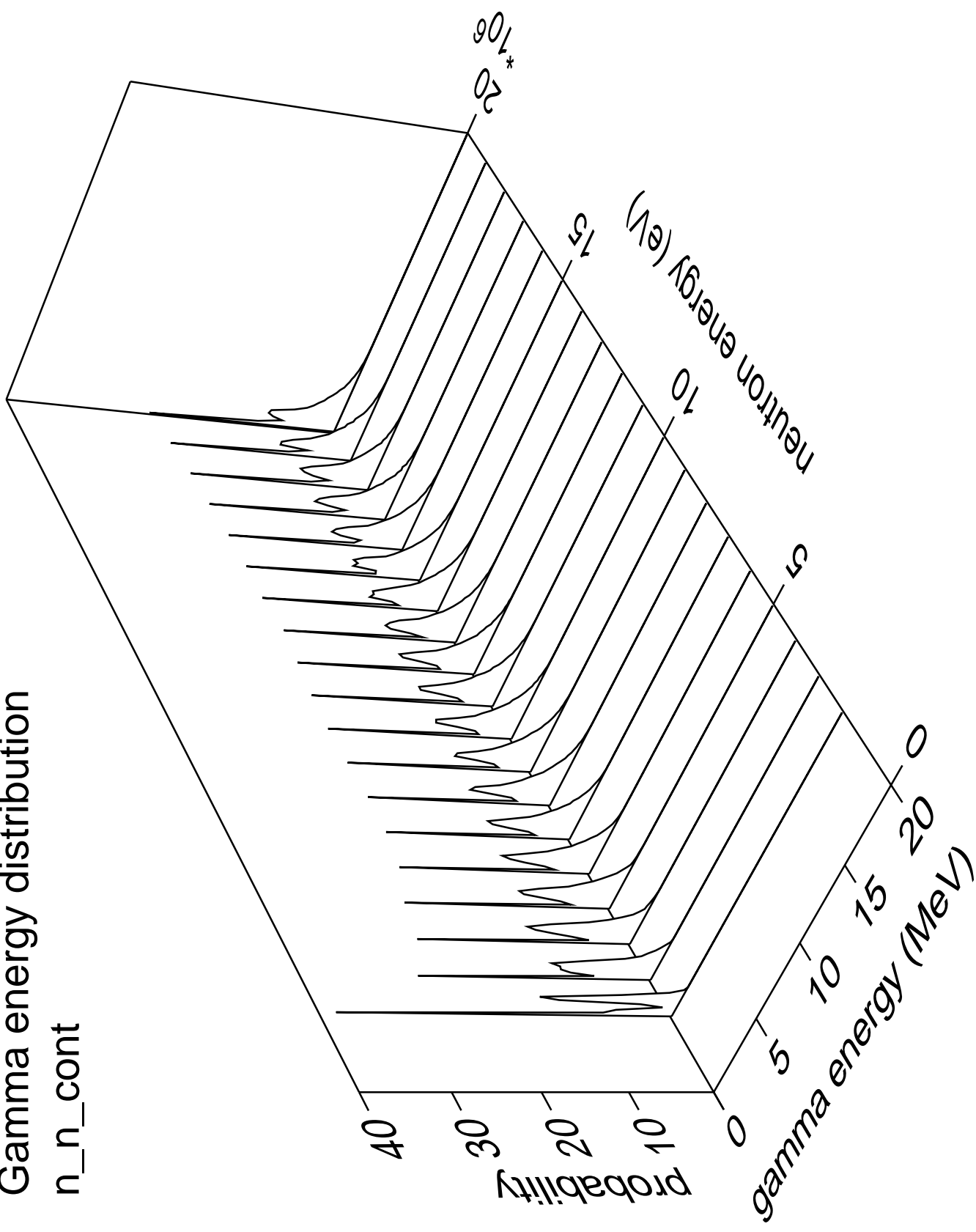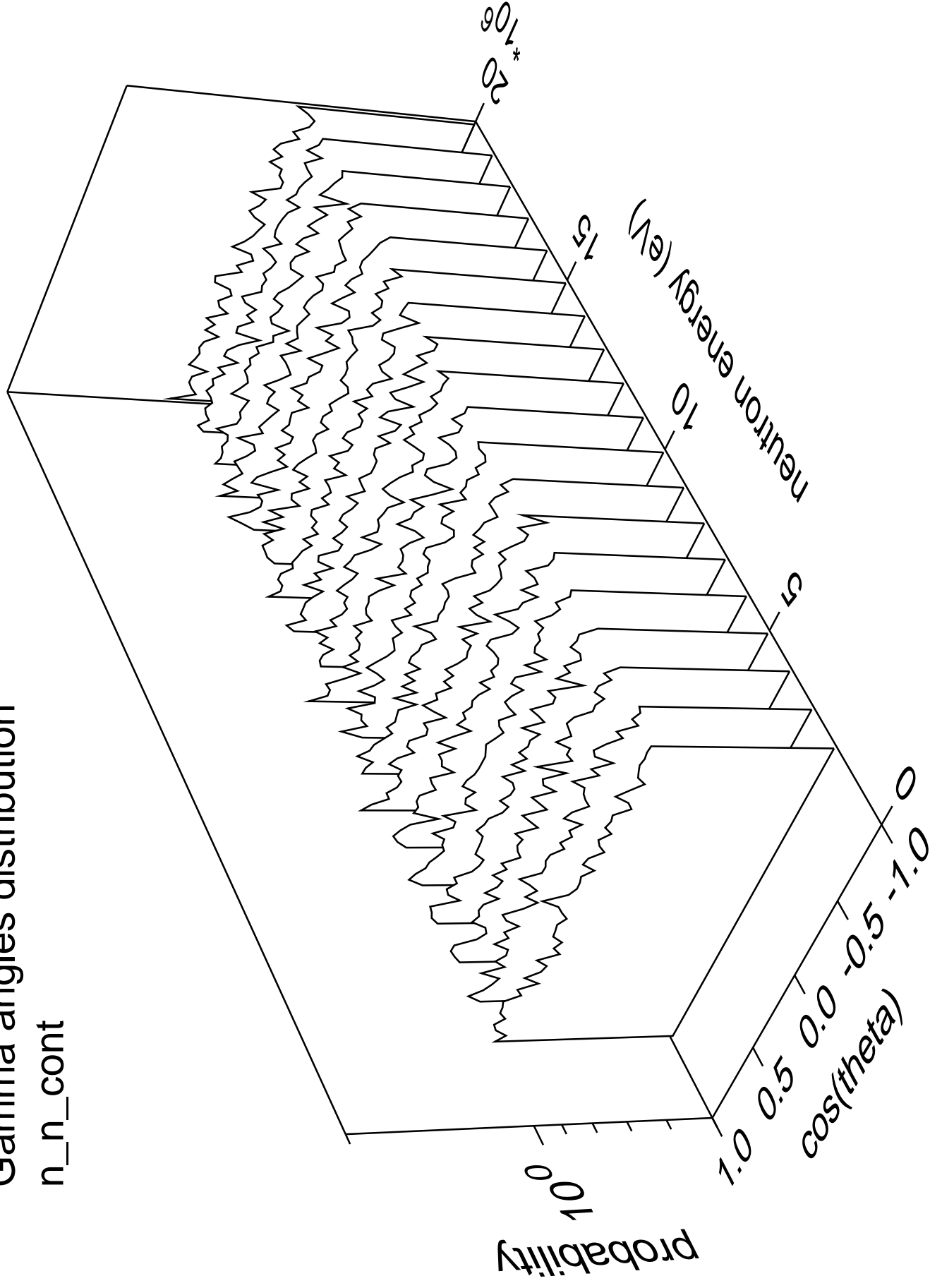
Gamma angles distribution
n_n_14

Gamma multiplicities distribution
n_n_14

Gamma energy distribution
n_n_cont

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

40

30

20

10

0   5   10   15   20

0

Gamma angles distribution
n_n_cont

probability

neutron energy (eV)

cos(theta)

Gamma multiplicities distribution
n_n_cont

Gamma energy distribution
n_p_tot

probability

neutron energy (eV)

gamma energy (MeV)

20 *10⁶

15

10

5

0

20 15 10 5

100 80 60 40 20 0
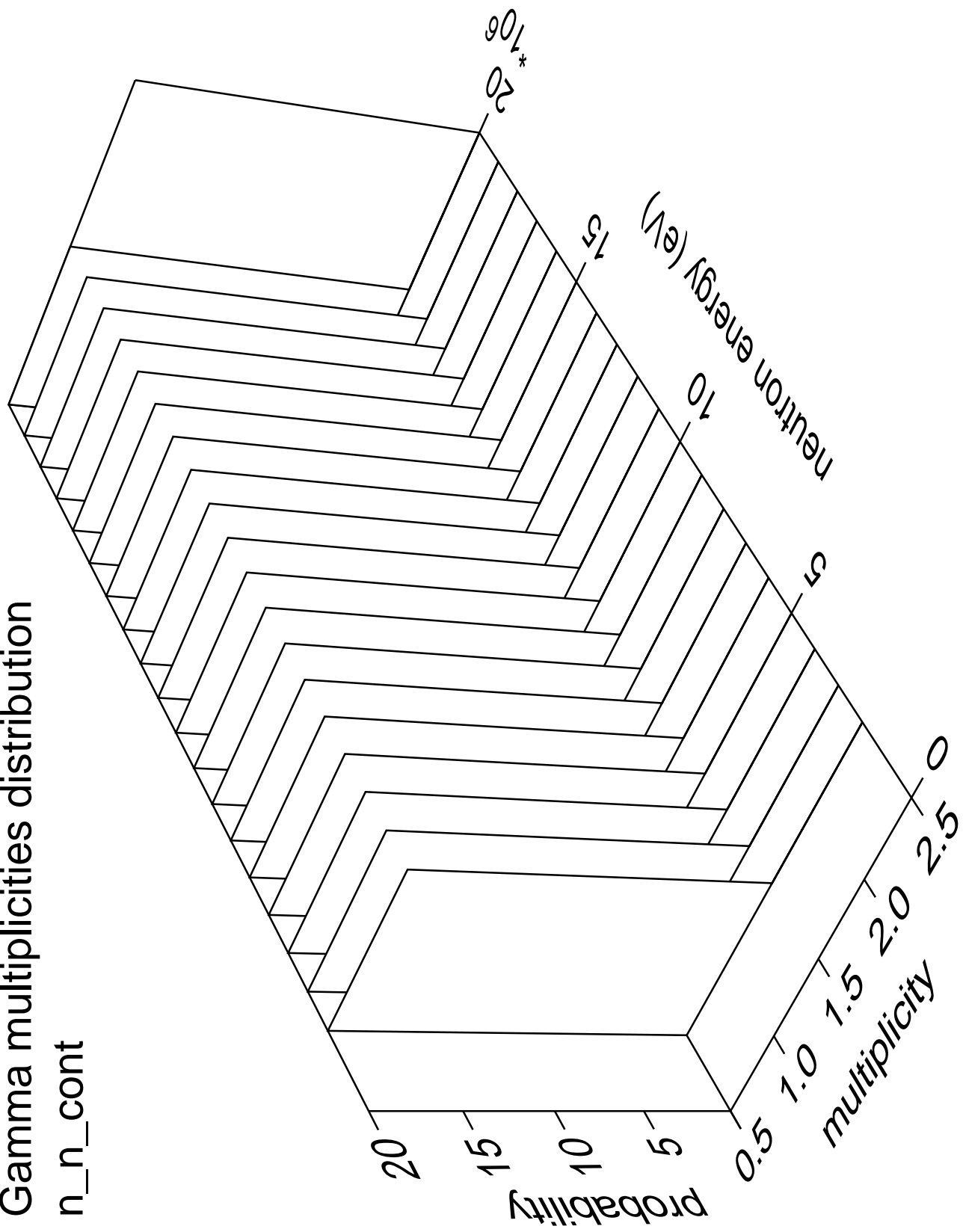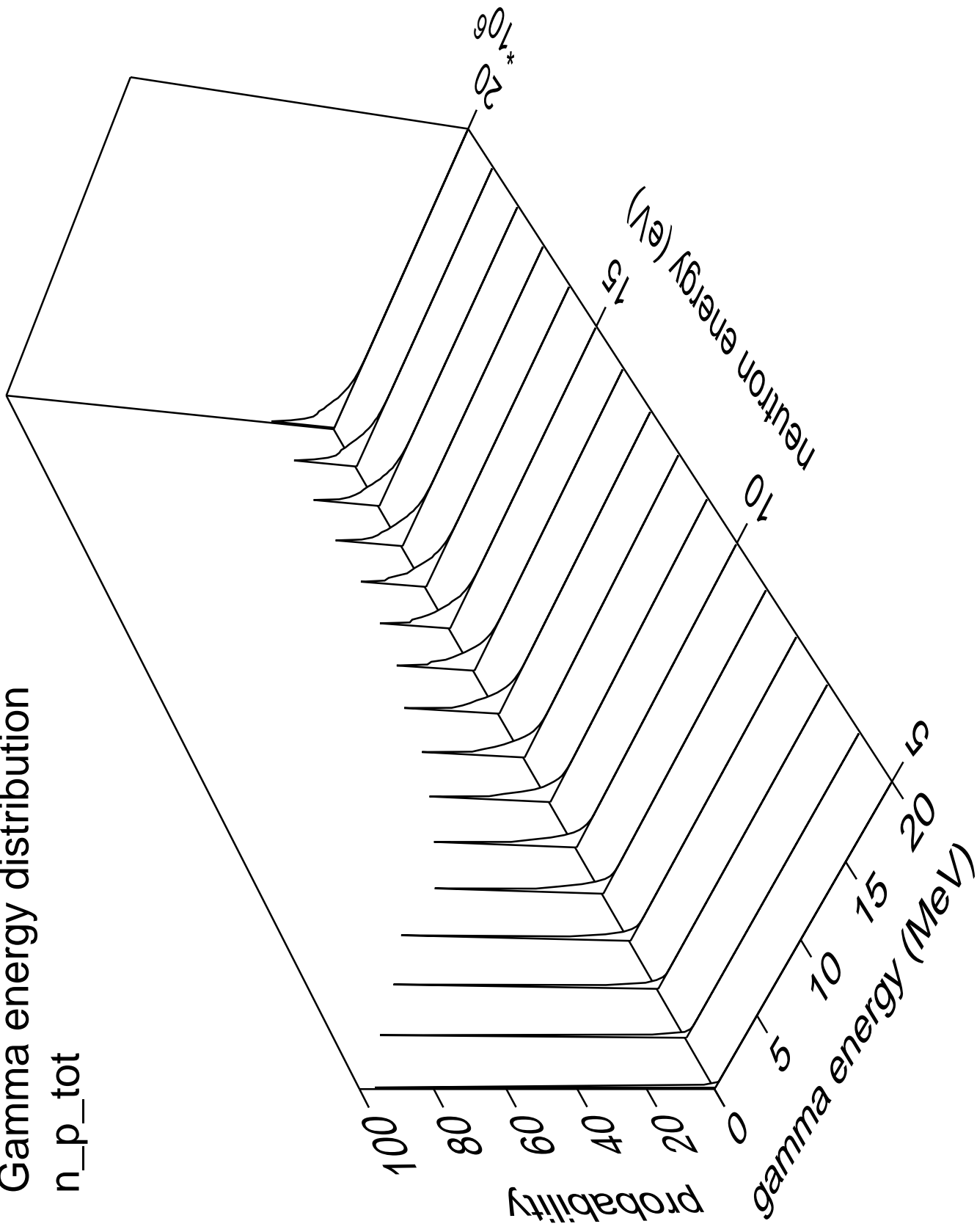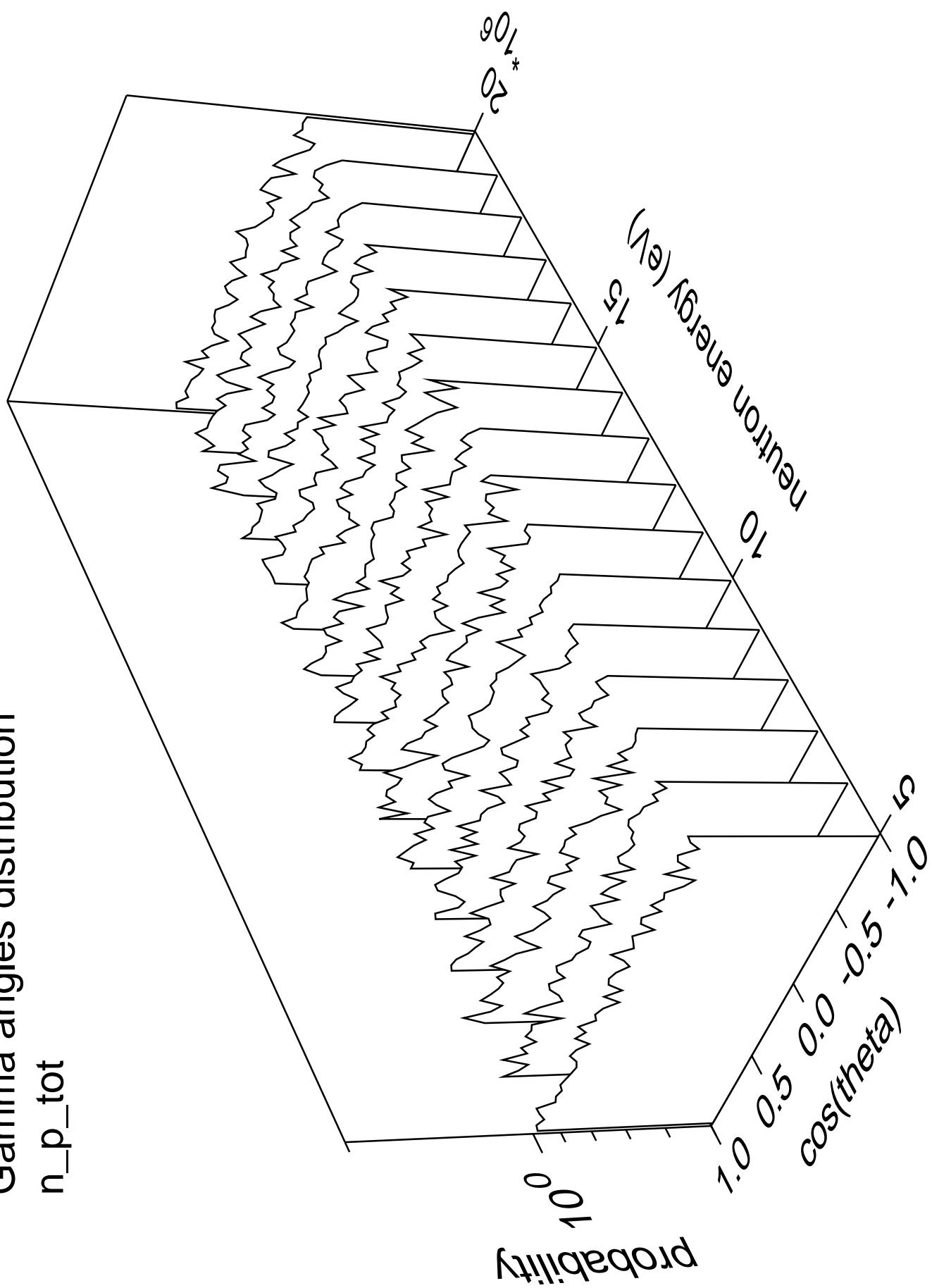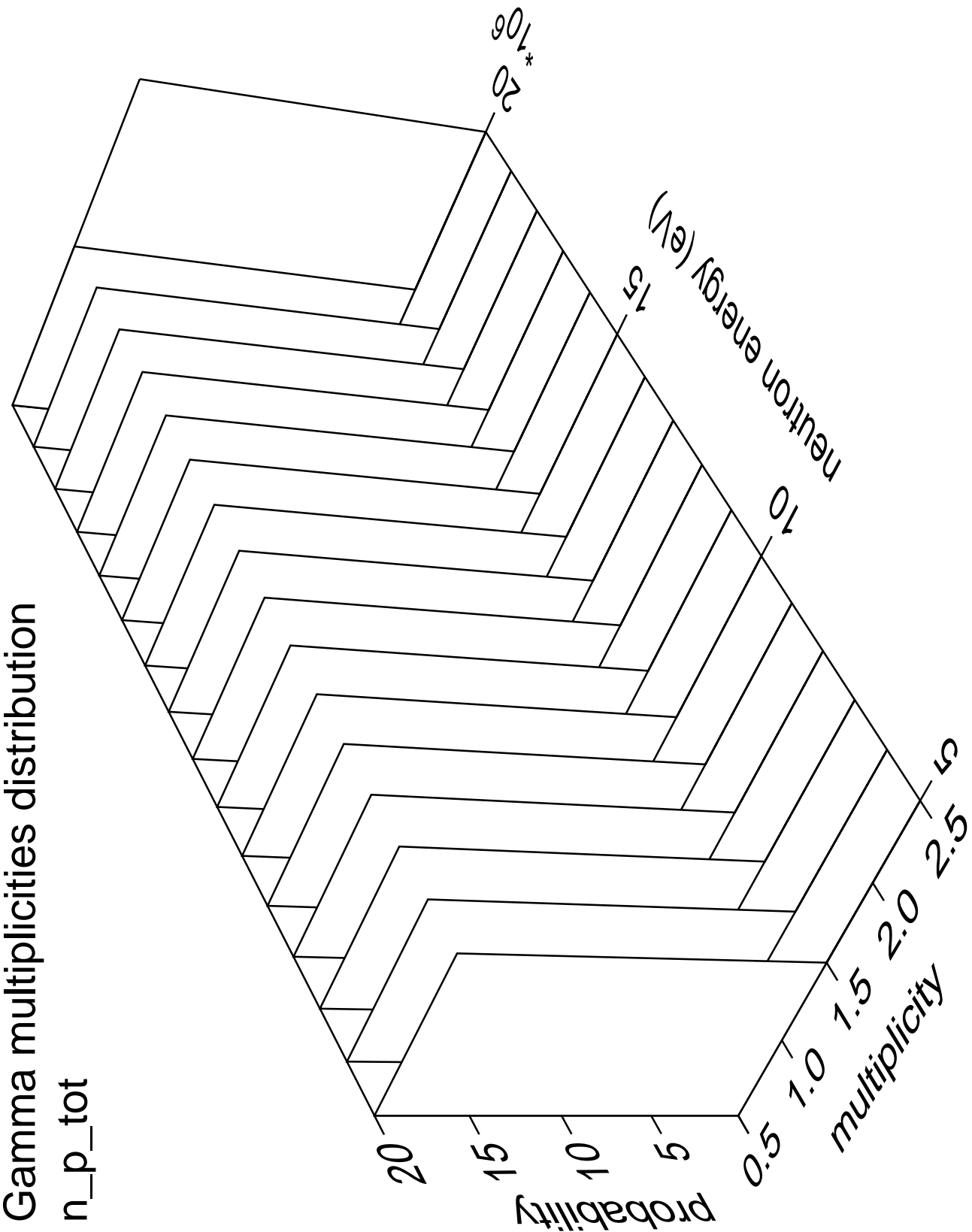
Gamma angles distribution
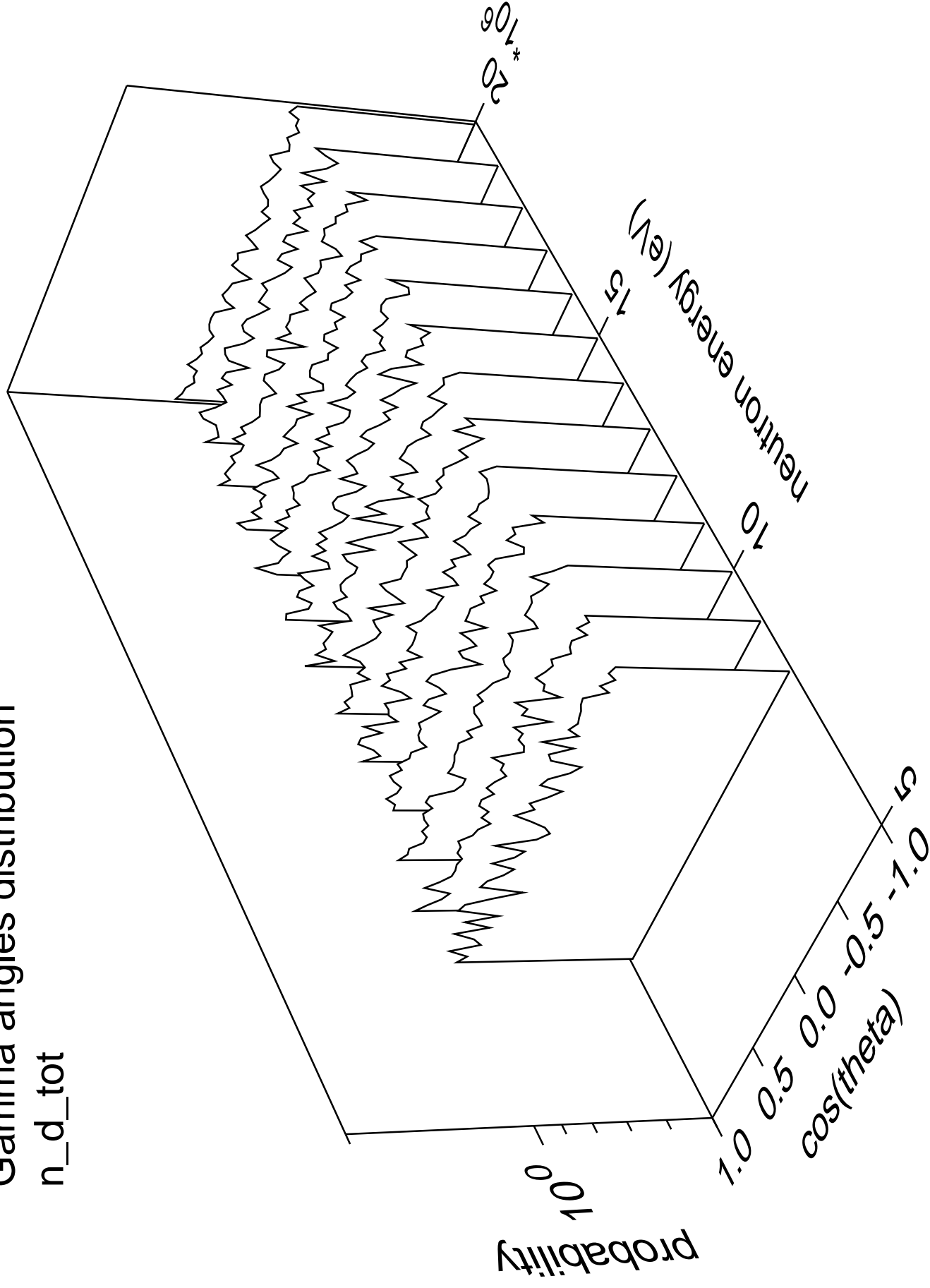n_p_tot

Gamma multiplicities distribution
n_p_tot

Gamma energy distribution
n_d_tot

probability

gamma energy (MeV)
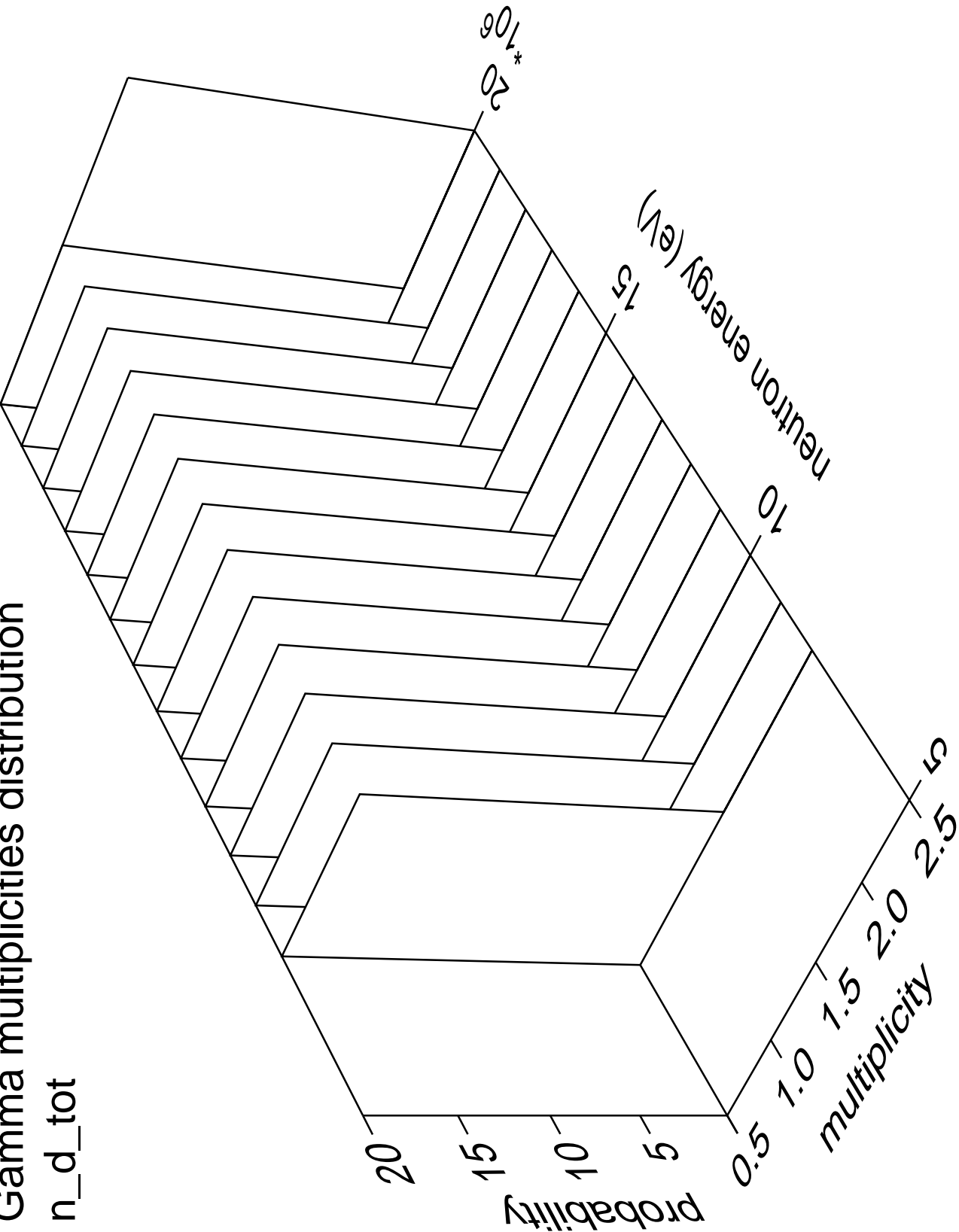
neutron energy (eV)

20 *10⁶

15

10

5

0   5   10   15   20

5

20

40

60

80

100

Gamma angles distribution
n_d_tot

probability

neutron energy (eV)

cos(theta)

20 *10⁶

15

10

5

1.0 0.5 0.0 -0.5 -1.0

10⁰

Gamma multiplicities distribution
n_d_tot

probability

neutron energy (eV)

multiplicity

20 *10^6

15

10

5

0.5 1.0 1.5 2.0 2.5

20

15

10

5

Gamma energy distribution
n_a_tot

probability

gamma energy (MeV)

neutron energy (eV)

*10⁶

Gamma angles distribution
n_a_tot

probability

neutron energy (eV)

cos(theta)

Gamma multiplicities distribution
n_a_tot